COMPARISON OF THE CLINICAL CHARACTERISTICS OF CENTRAL LINES INSERTED IN THE ED, MEDICAL WARDS AND ICUs

A dissertation submitted in partial fulfillment

of the MD Branch-1 (General Medicine) Examination of the Tamil Nadu

Dr. M.G.R Medical University, Chennai to be held in May 2018

DECLARATION

This is to state that the dissertation entitled "Comparison of the clinical characteristics of the central lines inserted in the ED and medical wards and ICUs" is my original work, submitted in partial fulfillment of the M.D Branch 1 (General Medicine) Degree Examination to be conducted by the Tamil Nadu Dr. M.G.R Medical University, Chennai, Tamil Nadu in May, 2018.

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CERTIFICATE

This is to certify that the dissertation entitled "Comparison of the clinical characteristics of the central lines inserted in the ED, Medical wards and ICUs" is the bonafide work of Dr. Lesley Ponraj, submitted in partial fulfillment of the M.D Branch 1 (General Medicine) Degree Examination to be conducted by the Tamil Nadu Dr. M.G.R Medical University, Chennai, Tamil Nadu in May, 2018.

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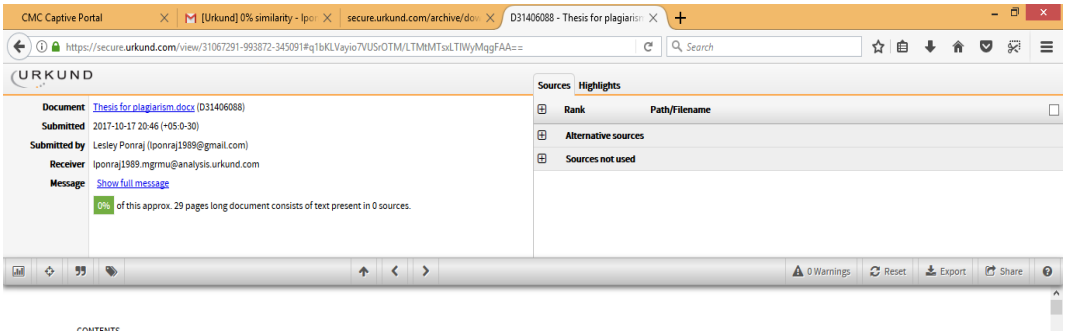
PLAGIARISM CERTIFICATE



This is to certify that the study "Comparison of the clinical characteristics of the central lines inserted in the ED and medical wards and ICUs" is a bonafide work of Dr.Lesley Ponraj with registration number 201511460 has submitted his dissertation for verification and I have personally verified the Urkund.com website for the purpose of plagiarism check. I found that the uploaded thesis file contains the introduction to conclusion pages and the analysis shows 0% of plagiarism in the dissertation.

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ABSTRACT

TITLE OF THE STUDY: Comparison of the clinical characteristics of central lines inserted in the ED, medical wards and ICUs.

AIM: To study the clinical characteristics of the CVC inserted in ED, medical wards and ICUs

METHODS: This is a prospective cohort study comparing the characteristics of the CVCs inserted in the ED, medical wards and ICUs. All patients with CVCs inserted in ED and medical wards/ICUs for than 48 hours were included. The clinical characteristics of the patient and CVC insertion were transcribed onto a clinical research form. All catheter tips were sent for culture to ascertain colonization rates. Blood culture were sent for suspected infection.

Exclusion criteria: Patient less than 16 years of age, CVCs that last less than 48 hours, those admitted to non-medical specialties, dialysis ports and arterial lines.

OUTCOME: The primary outcome was comparison of the rates of catheter colonization in ED, medical wards and ICUs. The secondary outcome was to determine and compare the following rates: the rates of CLRBSI, CLABSI,

line site infection and proportions of compliance to maximum sterile precautions

RESULTS: The colonization rates for ED CVC, ICU CVC and ward CVC were 30.3/1000 calendar days, 24.5/1000 calendar days and 25.3/1000 calendar days respectively and RR of ED CVC colonized compared to ICU CVC was 0.858 (95% CI 0.346 to 2.127), (p value 0.742). CLABSI rates for ED CVC and ICU CVC were 4.39/1000 calendar days and 10.89/1000 calendar days respectively. RR of ED CVC CLABSI compared to ICU CVC was 0.27(95% CI 0.031 to 2.38), (p value 0.242). CLRBSI rates for ED CVC and ICU CVC were 4.39/1000 calendar days and 8.17/1000 calendar days respectively. RR of ED CVC CLRBSI compared to ICU CVC was 0.36(95% CI 0.039 to 3.42), (p value 0.379). Line site infection rates for ED CVC, ICU CVC and ward CVCs were 8.65/1000 calendar days, 2.72/1000 calendar days and 3.89/1000 calendar days respectively. RR of ED CVC CLRBSI compared to ICU CVC was 2.21(95% CI 0.206 to 23.58), (p value 0.512). Proportions of maximum sterile barrier precautions for ED, ICUs and ward CVCs were 43%, 92% and 20% respectively. RR of ED CVC vs ICU CVC for maximum sterile barrier precautions was 0.49 (95% CI 0.35 to 0.68) (p value <0.05)

CONCLUSION:

The rates of catheter colonization, CLABSI, CLRBSI and line site infection rates were not significantly different in the among the CVCs of ED, wards and ICUs. Compliance to maximum sterile precautions were highest with ICU CVC followed by ED CVC and least in ward CVCs. Compared to ICU CVCs, ED CVCs had more number of femoral insertions, lower rates of prior antibiotic administration, more than 1 attempt for CVC insertion, higher CVC insertion at night time, lesser USG guided insertion, and shorter duration of CVCs.

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Keywords: catheter related bloodstream infections, catheter related bloodstream infection rate, colonization rate, emergency department central lines

CONTENTS

INTRODUCTION

Central Venous Catheter (CVC) refers to a catheter put into a large vein to get an intravenous access. Although it has become very useful in the management of seriously ill patients, it is associated with systemic complications such as central line associated blood stream and local infections, and local complications such as pneumothorax, hematoma and arterial puncture. The CVCs inserted in the ED are potentially different from those inserted in the medical wards and intensive care units (ICUs) with respect to the clinical condition of the patient at the time of insertion of a line and at the situation thereof. Though sterile precautionary recommendations remain the same, the sterile procedures practiced for the insertion of CVCs and clinical conditions of the patient is potentially different in the settings of ED versus medical wards and ICUs because of the differences in the conditions of the place and the patients.

The CVC inserted in the ED are different from those inserted in a more controlled setting as in ICU, wards or in operation theatre. The data for central line related and Central line associated blood stream Infections in critical care setting are extensive but similar data for emergency medicine central lines are limited. Data from India for emergency medicine central

lines related infections were not available after searching pubmed and indmed.

The basis for this research is that emergency medicine differs from intensive care setting in the following ways:

- Crowding due to non-urgent visits, "frequent-flyer" patients, seasonal crowding, inadequate staffing, inpatient boarding, and hospital bed shortage
- Frequent interruptions to delivery of care
- Use of nontraditional beds
- Close proximity of patients

Therefore, it is hypothesized that the rates of infections related to and associated with the central lines inserted in ED are higher than those in ICU. In CMC Vellore, a study done by Chacko B et al. showed an incidence of 15.3% of hospital acquired infection of which the BSI contributed to 35 of the documented 76 hospital acquired infections. A good proportion of these central lines are inserted in the ED.

The use of sterile precaution in ED setting has been shown to be lower than that of other settings like ICUs. Therefore, we undertook the study to quantify the usage of sterile precautions and other relevant clinical characteristics with regards to CLABSIs. We also wanted to compare the

impact of these differences in clinical characteristics leading onto development of catheter colonization and infection.

AIM

To compare the clinical characteristics of the CVCs inserted in ED, medical wards and ICUs.

OBJECTIVES

PRIMARY OBJECTIVE:

To compare the catheter colonization rates of CVCs inserted in the ED with those inserted in the medicine wards/MHDU/MICU among patients admitted with medical illness.

SECONDARY OBJECTIVES:

To compare the difference of the following rates among CVC inserted in ED, medical wards/ICUs.

- The rates of central line related blood stream infection.
- The rates of central line associated blood stream infections.
- The rates of line site infections.
- The rates of compliance to maximum sterile precautions.

LITERATURE REVIEW

A Central line refers to an intravascular catheter whose tip lies at or close to the heart or terminates at one of the great vessels(1). As per the NHSN April 2013 system, the following vessels are included among the vascular sites where a central line tip may terminate: aorta, pulmonary artery, superior vena cava, inferior vena cava, brachiocephalic veins, internal jugular veins, subclavian veins, external iliac veins, common iliac veins, femoral veins, and in neonates, the umbilical artery/vein.

This being clarified, there are other intravascular devices such as arterial catheters, arterio-venous fistula, arterio-venous graft, extracorporeal membrane oxygenation(ECMO), hemodialysis reliable outflow (HERO) dialysis catheters, intra-aortic balloon pump (IABP) devices, a peripheral IV line or ventricular assist devices do not qualify as a central line.

A central line maybe permanent referring to tunneled catheters, including dialysis catheters and other implantable ports or temporary referring to the non-tunneled and non-implanted catheters.

Blood stream infections: They may be primary blood stream infections in which another source for the isolated organism is not found or a secondary blood stream infection in which a source for the blood stream infection is identified. For example, Isolation of Streptococcus viridans in a patient

with infective endocarditis is an instance of secondary blood stream infection.

The day of the event: This refers to the day when the blood culture was drawn, in other words the index date.

CLABSI: Catheter associated blood stream infection refers to lab confirmed blood stream infection wherein the CVC is in place for at least more than 2 calendar days on the day of the event with the day of device placement being regarded as the day 1. And the line should have been in place on the day of the event or the previous day. If the CVC had been in place for more than 2 calendar days, then the date of event of the blood stream infection must be within 2 calendar days of the removal of the CVC with the day of removal of the CVC considered as day 1.

This strict definition is used mainly for the purpose of surveillance as proposed by the NHSN.

Using this, the CLABSI rate could be calculated using the formula:

$$\frac{\text{Number of CLABSI in that particular area x 1000}}{\text{Number of central line days for that particular area}}$$

The CLABSI rates per 1000 calendar days is calculated by dividing the number of CLABSI in a particular area x 1000 into the number of central line days for the same area.

A more user-friendly definition would be that of CDC 2011.

CLRBSI:

- Presence of catheter for at least 48 hours (2 calendar days) prior to the onset of infection
- Evidence of systemic infection in the form of fever, hypotension or tachycardia in the absence of another obvious known cause
- Microbiological evidence that the catheter is the source of infection: If the catheter is removed then, semi quantitative or quantitative culture of the catheter tip. If the catheter is not removed then, blood culture drawn from the peripheral poke and through the central line showing the same organism and antibiogram with differential time to positivity >120minutes or paired quantitative cultures showing a 5-fold higher colony forming unit count in the blood drawn from the central catheter than from the peripheral poke

CLABSI:

- Systemic symptoms as mentioned with fever, chills, tachycardia and hypotension
- Laboratory confirmed blood culture positivity

- The catheter has been in place for 48 hours prior to the development of symptoms
- No other evidence of infection

Line exit site infection: This refers to the presence of redness, warmth, purulence or tenderness at the site of the central venous catheter insertion.

Catheter colonization: This refers to the growth of more than 15 colony forming units of a micro-organism from the CVC tip using a semi-quantitative method like Maki's roll plate technique.

The differential time to positivity: This refers to the difference between the time taken by the blood culture drawn from the central venous catheter minus the time taken by the blood culture obtained from the peripheral poke, when both the cultures were taken simultaneously (paired quantitative cultures). If this time difference is more than 120 minutes, it bears a sensitivity of 89%, a specificity of 83%, and positive predictive value of 87% and a negative predictive value of 89% comparing with a gold standard composite of quantitative paired blood culture showing a 5 fold difference in CFU count(2).

EPIDEMIOLOGY:

The CDC estimates about 15 million catheter days for CVC in the ICUs(3). The rates of CVC associated infections in the ICU in the United States are of the order of 5.3 per 1000 calendar days for these lines. In a meta-analysis by Byer et al, the attributable mortality for CLABSI was about 3% (52). This contributes to a huge financial burden on the country as well as observed by Arnow et al. was about $3700 per CLABSI in the ICUs (4).

In our country, the rates of CLABSI in urban ICU setting as mentioned in a multi-centric study by Singh S et al was about 2.4/1000 calendar days(5) although this may not be representative of the real situation as studies done in Delhi showed a higher incidence of the order of 7.9/1000 calendar days(6). This does contribute to a significant burden on the cost incurred by patients in ICUs.

In CMC Vellore, a study done by Chacko B et al. showed an incidence of 15.3% of hospital acquired infection of which the BSI contributed to 35 of the documented 76 hospital acquired infections. The presence of a hospital acquired infection was associated with significantly increased number of days of stay in the hospital and number of days of ICU stay. The cost difference of the HAI when compared to a patient without a HAI was also significant (INR 92893 vs INR 180469)(7). Thus, hospital acquired

infection and the financial burden that could be directly attributed to it is a real problem and CLABSI forms a significant part of these infections.

Compared to the data available on CVC inserted in the ICUs, the data on CVC inserted in the ED is scarce. In a meta-analysis by Le Master et al, the ranges of rates of CLABSI for ED related CVC was 0-24.1/1000 calendar days and for CLRBSI was 0-32/1000 calendar days. These CVC generally lasted for a shorter duration (mean of 4.9 days) and the compliance with the sterile bundle ranged from 33%-95% showing a wide variability in the compliance rates.(8) The rates of CLABSI were generally proposed to be higher than that of those inserted in ICUs. Thus, the economic burden and the consequences of infection might also be higher.

There also seems to be a changing trend in the frequency of the usage of Central lines in ED. In a multi-centric study by Glickmann et al, it was observed that 0.12% of all patients who presented to an ED underwent insertion of a central line and the proportion of patients who underwent the CVC insertion was higher in an urban setting than in a rural setting. It was also noted that the rates of the CVC insertion have been increasing with time from 2004 (0.87% per 1000 ED patients) to 2008 (1.62% per 1000 ED patients)(9).

RISK FACTORS FOR CLABSI:

The risk factors for CLABSI may be classified into intrinsic (non-modifiable risk factors related to the patient) and extrinsic risk factors (those that are modifiable and related to the catheter or the environmental factors).

The Intrinsic factors include

- Patient's age
- Underlying disease and co-morbid conditions
- Gender

The Extrinsic factors include (10)

- Multiple CVCs
- Prolonged hospital admission prior to insertion of CVC
- Use of parenteral nutrition
- Femoral site catheterization in adults
- Heavy colonization at the catheter tip
- Heavy colonization at catheter hub
- Multi-lumen CVCs
- Lack of maximum sterile barrier at the time of insertion
- Insertion in the ED or ICUs
- Prolonged use of catheter
- Internal jugular catheterization

- Neutropenia
- Prematurity
- Reduced nurse to patient ratio in ICU
- Reduced care of catheter
- Blood product transfusion in children

MECHANISMS OF CLABSI:

The basic mechanisms of CLABSI include the following(11):

- Catheter being contaminated prior to insertion: This usually happens by the physician handling the catheter although it may occasionally happen by contamination at the manufacturing source.
- Native skin microbes could migrate along the catheter from the insertion site and colonize the tip of the catheter. The factors implicated here again are health care workers handling the line and skin disinfectant used and rarely an infected skin disinfectant.
- Contamination of the hub of the catheter: Factors responsible for this include health care workers handling the line, use of infected hubs and infusates.
- Catheter getting infected by hematogenous spread of infection from another site. This is referred to as “seeding” and although uncommon, is still a possible mechanism.

- Contamination of the infusate: The infusate may be contaminated at the manufacturing source or at the time of insertion into the CVC. This is also quite uncommon.

PROPERTIES OF CATHETER INFLUENCING INFECTIONS:

The properties of a catheter per se can influence the frequencies of infections as mentioned below(11):

- Presence of surface irregularities in the catheter that can serve as a nidus for infection with certain organisms like *S.epidermidis* and *Candida sp.*
- Sialistic catheters are more prone to formation of fibrin sheath than polyurethane catheters.
- Biofilm formation happens more readily on silicon polymer catheters than polyurethane catheters, especially by *Candida sp.*
- The thrombogenicity of a catheter also plays as important role in the determination of infections
- Host factors that determine the formation of protein adhesions that form a fibrin sheath around the catheter. The molecules implicated here are fibronectin and fibrin.

- The intrinsic virulent properties of the microbes and their ability to secrete extracellular polymeric substance that leads onto formation of biofilms and renders then easily attachable to the catheter.

HISTORY OF CVC:

Werner Frossman performed the first CVC insertion in 1929. Although initially ridiculed and opposed by his friends and colleagues, he was awarded the Nobel Prize for medicine in 1956 for his contribution when he had demonstrated the procedure's safety by the peripheral insertion of a ureteric catheter into his own ante-cubital vein till the right atrium. In 1953, Ivan Seldinger introduced the technique commonly called after his name which had the benefits of reduced risk of vessel wall damage, reduced extravasation and the use of a smaller bore needle. This is still considered the gold standard for the insertion of any central venous catheter. It has found its way to revolutionizing various procedures like tumor and aneurysm embolization, ureteric catheterization and central venous catheter insertion. An ideal CVC should have lower rates of infections, easy insertion and fewer complications.(12)

INDICATIONS FOR CVC INSERTION:

The indications include access for drugs, access for monitoring and interventions and access for extracorporeal blood circuits namely(13),

- Central venous pressure monitoring (CVP) in thermodynamically unstable patients
- Administration of fluids, inotropes, chemotherapeutic drugs, irritant and caustic antibiotics (like amphotericin, vancomycin, cloxacillin, Inj. KCl infusions)
- Emergency venous access
- Difficult peripheral venous access
- Trans venous pacing wire introduction for temporary pacing
- Nutritional support (total parenteral nutrition)
- Pulmonary artery catheterization
- Hemodialysis, plasma exchange
- To collect blood samples and to avoid repeated peripheral venipuncture
- To monitor venous oxy-hemoglobin saturation

CONTRAINDICATIONS FOR CVC INSERTION (13):

- Ipsilateral indwelling catheters (in the same limb)
- Ipsilateral hemothorax and pneumothorax
- Deranged coagulation parameters
- Thrombocytopenia
- Ipsilateral vessel thrombosis or stenosis
- Infection in the insertion site
- Presence of AV dialysis fistula in ipsilateral limb

A number of clinical factors must be considered just prior to insertion of a CVC. The indication for the CVC, the expected duration of the CVC, the experience of the operator, availability of imaging techniques like ultrasound, the urgency of the insertion of the line, the need for special purposes like measurement of the central venous pressure and venous oxyhemoglobin saturation, hemodynamic stability of the patient and risk of pneumothorax. Consideration of the above factors enables the physician in deciding the type and site of the CVC site.

TYPE OF CENTRAL VENOUS CATHETERS:

Central venous catheters may be classified into many ways:

- Tunneled vs non-tunneled catheters,

- Single lumen vs multi lumen catheters,
- peripherally inserted central catheters vs central venous catheters
- antibiotic coated catheters and
- implantable ports.

TUNNELED CATHETERS:

These are central venous catheters whose point of entry into the vein is away from the point of entry into the skin. These catheters are ‘tunneled’ through the subcutaneous tissue for a short distance before they enter the vein. These catheters last for a longer duration especially dialysis ports and ports for the administration of chemotherapeutic agents. Examples of these include the Hickmann power tunneled central venous catheter and Groshong tunneled central venous catheter. These catheters have a Dacron cuff to prevent the migration of organism from the surface of the skin along the catheter. This is usually placed near the exit site of the catheter.

IMPLANTABLE PORT:

This is also a type of tunneled catheter. The access port is also placed under the skin. It requires very less manipulation compared to the conventional tunneled catheter. They may be single lumen or double bore. Because of the

small internal diameter of these catheters, the rate of infusate through them is generally slow. However, since the port gets hidden under the skin, they are appealing cosmetically and have wide acceptance usually in the context of administration of chemotherapy medications.

NON-TUNNELED CATHETER:

These catheters are for short term use and for usage in emergency situations for quick access. They are directly inserted into a large vein and the tip is guided by Seldinger technique. They may be single lumen, double lumen or triple lumen. They may or may not be antibiotic coated. The different lumens open through hole in the sides of the distal end of the catheter. The distal most end is used to collect blood (usually colored brown/red) as it is less likely to get suctioned against the walls of the vessel.

ANTIBIOTIC COATED CATHETER:

They are coated with a layer of heparin or antibiotics line minocycline and rifampicin or chlorhexidine with silver sulfadiazine.

PERIPHERALLY INSERTED CENTRAL CATHETER: These catheters are inserted into a large vein in the antecubital fossa- usually cephalic vein,

basilic vein or the antecubital vein. The tip is slowly advanced proximally so that it lies in or close to the superior vena cava or the right atrium. They can be used to administer antibiotics and used for long duration.

TECHNIQUE OF INSERTION OF THE CVC:

The procedure is explained to the patient/legal guardian and informed consent taken. The patient is put on continuous monitor with ECG leads and saturation probe. Ultrasonography is used to locate the target vein. Its patency may be confirmed by the following techniques- compressibility test or by color doppler flow, or augmentation in the case of femoral vein. The position of the patient is different based on the target vein as explained below;

Internal Jugular vein: The patient is placed in Trendelenburg position with head turned slightly to the other side. Rotation beyond 45 degrees and use of shoulder bolster reduces the vein diameter and therefore must be avoided(14). Excess rotation also causes the superimposition of the carotid artery over the jugular vein and leads to higher complication rates(15). The landmark for the insertion is the apex of the sternocleidomastoid triangle whose borders are formed by the medial end of the clavicle inferiorly and by the 2 heads of the sternocleidomastoid on either side. 2 approaches are described here:

Posterior approach: The entry is made along the posterior edge of the sternocleidomastoid at a junction of the mid and lower thirds of the neck (usually 5 cm above the clavicle) and is directed towards the sternal notch anteromedially by 10 degrees.

Anterior approach: The entry is along the anterior border of the sternocleidomastoid at a point 5cm above the sternum or mid-point of the sternocleidomastoid and directed toward the ipsilateral nipple.

Femoral vein: Patient is supine with the inguinal area adequately exposed. The lower limb is abducted and externally rotated by 15 degrees to expose the femoral triangle. Reverse Trendelenburg position may be used in patients with no contra indications. The vein is accessed in the mid inguinal point- a point midway between the pubic tubercle and anterior superior iliac spine just lateral to the point where the femoral pulsations are felt.(16)

Subclavian vein: The patient is placed in a supine position and the arm in slightly abducted. The head is turned to the same side minimally. Other maneuvers used could be inferior shoulder retraction.(17) The point of entry is just below the medial third of the clavicle (in the infra clavicular approach) and just above the clavicle with the head turned to the contra lateral side in the supra-clavicular approach.

Once the site of access is identified, the rest of the insertion in via a general process as outlined below:

Antiseptic solution is used to prepare the insertion site. The site is draped with sterile towels and the surrounding area in covered with sterile drapes. Local anesthesia is administered by Inj. 1% Lignocaine. The vein is cannulated by the introduced needle. The syringe is removed to look for free flow of non-pulsatile blood. If doubt that the needle is in an artery it may be confirmed by connecting to a transducer to look for the venous waveform or oxymetry may be done to look for the pO2. The J tipped guide wire is gently inserted through the needle and the tip is slowly and gently advanced. The introducer needle is removed. The position of the guide-wire may be confirmed by ultrasonography. A nick is made in the overlying skin close to the point of entry of the guide-wire and the dilator is passed over the guide-wire up to a point wherein it would have entered the target vein. The dilator is then removed and the CVC is passed over the guide wire till the hub. The guide-wire is removed and ultrasound is used again to confirm the position of the catheter. The CVC is secured with sutures and transparent sterile dressings. A chest radiograph is obtained to confirm catheter tip position.

COMPLICATIONS OF CVC INSERTION(13):

IMMEDIATE COMPLICATIONS:

MECHANICAL:

- Arterial puncture
- Intra-arterial placement of CVC
- Thoracic duct injury (on the right side)
- Hemorrhage
- Pneumothorax and hemothorax
- Arrhythmia
- Cardiac tamponade

THROMBOEMBOLIC:

- Air Embolism
- Wire Embolism

DELAYED COMPLICATIONS:

MECHANICAL:

- Cardiac tamponade
- Fracture of wire
- Vessel erosion or perforation
- Stenosis of vessel

THROMBOEMBOLIC:

- CVC thrombosis
- CVC embolism
- Pulmonary embolism

INFECTIOUS:

- Catheter colonization
- Catheter related blood stream infection

MEASURES TO PREVENT CLABSI AT THE TIME OF INSERTION

SITE OF INSERTION:

This depends on the experience of the operator, the indications and the presence of relative contraindications; this must be carefully chosen as it largely determines the presence of line related complications. The possible sites include access into the internal jugular vein, femoral vein and subclavian vein. Based on a Cochrane review by Ge et al(18), there was high quality evidence in critically ill patients to show that the rates of catheter colonization (14.18% or 19/134 versus 2.21% or 3/136) (n = 270, one RCT, RR 6.43, 95% CI 1.95 to 21.21) and thrombotic complications (21.55% or 25/116 versus 1.87% or 2/107) (n = 223, one RCT, RR 11.53, 95% CI 2.80 to 47.52) were higher in the femoral group compared to the subclavian group. It was also observed in a same study that there was no significant difference between the Internal Jugular CVC and the Femoral CVCs with respect to the catheter colonization and CLRBSI although the

mechanical complications were lower in the femoral group (4.86% or 18/370 versus 9.56% or 35/366) (n = 736, one RCT, RR 0.51, 95% CI 0.29 to 0.88).

A systematic review by Marik et al comparing the rates of CLABSI between the femoral, internal jugular and subclavian routes showed no difference but this showed fewer mechanical complications in the femoral group as well(19). The preference of the site of insertion has been mentioned in the recent KDIGO guidelines, although mainly with respect to the short-term dialysis catheter insertion. The order of preference prescribed is that of right internal jugular followed by femoral, left jugular and lastly subclavian(20).

The rates of CLABSI found in a prospective study done by Theodoro et al (21)over a 28 month period in the ED of an academic tertiary hospital, there were 9 CLABSI among the 994 CVC inserted (4504 ED catheter days and CLABSI rate of 2.0/1000 ED catheter days). Of these 9 CLABSI- with regards to the site, 2 occurred in femoral, 3 in jugular and 4 in subclavian site. The study was not powered to look at the differences in the effect of the site on the rates of CLABSI. The data on the effect of the site of insertion on the ED-CLABSI is limited. Till further information is available, it is safe to continue with the guidelines as available for the CVC inserted in other settings.

USAGE OF ULTRASONOGRAPHY:

In a systematic review by Hind et al, the usage of ultrasonography, reduced significantly the failed catheter placements, mechanical complications, and catheterization at first attempt by relative risk reductions of 86%, 59% and 41% respectively. This review did include one small study with infants and had shown similar results in them as well. These comparisons were mainly for the internal jugular vein and data on femoral group were limited. The methods used for ultrasonography may be broadly classified into two: 1, the out of plane method wherein the vessel is imaged in transverse plane and 2, the in-plane method where the vessel in the imaged plane along the long axis. There are no studies to say which technique is better than the other, although expert consensus is that a method incorporating a combination of both is recommended(22). The usage of ultrasound during insertion also has the advantage of confirming the position of the CVC whether it is in the intravascular space and to look for other associated mechanical complications like hematoma and pneumothorax.

In an RCT done by Leung et al (23)in the ED of a tertiary hospital for the cannulation of the IJV versus the conventional landmark technique, the usage of ultrasonography showed the following results:

- Higher rates of successful cannulation (93.9% vs 78.5%)

- Higher rates of successful cannulation at the first attempt (82% vs 72.6%)
- No difference in the mean access times taken for a successful cannulation
- Lower complication rates in the group with ultrasonography usage (4.6% vs 16.9%)

The usage of ultrasonography in an ED setting although does not alter the time taken to a successful cannulation, it is associated with 15.4% higher rate of successful cannulation, 9.4% higher rate of successful cannulation at the first attempt and significantly lower rates of complications by 12.3%.

The evidence for the usage for ultrasound guidance in CVC insertion is overwhelming both in ED settings and in controlled ICU settings is. Although it does require a learning curve that the operator must go through, it does have unquestionable advances when compared to the standard landmark method.

This view is well echoed by national guidelines like NICE which recommends usage of 2D ultrasonography for line insertion whether in elective or emergency settings. This may be undertaken after the operator has received adequate training and is declared competent. It discourages the use of audio guided doppler(24).

The cost of ultrasonography use is a point of concern that has been addressed. It does significantly reduce the cost incurred in development of complications and reduction in time taken to performance of the insertion as demonstrated by the meta-analysis by Randoph et al(25). The proposition that ultrasonography should become a part of routine CVC insertion is the opinion of many national guidelines(24).

SKIN PREPARATION:

The options available for skin preparation are 2% chlorhexidine in 70% isopropyl alcohol and povidone- iodine. The use of antiseptics reduces the burden of available skin flora although it does not fully eliminate the microbes which may still be hidden in the hair follicles and sebaceous glands.

Combining iodine with povidone (carrier) helps in slow release of free iodine into the solution. This maintains the microbicidal properties of the solution for a longer period(26). Chlorhexidine is a positively charged molecule. The negatively charged cell wall of the bacteria and fungi readily bind chlorhexidine and this leads to disruption of osmosis and eventually the death of the microbe within 20 seconds(27). It is essential that the antiseptics be allowed to dry prior to starting the procedure(28). When 2% chlorhexidine is used in combination with 70% alcohol, the immediate

action of chlorhexidine is prolonged due to the longer action of alcohol thereby enhancing the efficacy(13).

In a meta-analysis by Chaiyakunapruk et al(29), the superiority of chlorhexidine gluconate to povidone iodine in skin preparation prior to CVC insertion was shown as the relative risk ratio for CLRBSI with catheters disinfected with chlorhexidine vs those disinfected with povidone iodine was 0.49 (95% CI, 0.28 to 0.88). As this finding has been confirmed by other studies as well, the IDSA 2011 guidelines have proposed for the use of >0.5% Chlorhexidine solution for the skin preparation prior to CVC insertion. This has been given preference over iodophors, tincture iodine and plain 70% alcohol all of which may be used only in the event of allergy to chlorhexidine(30). However, for the use of peripherally inserted central lines, the IDSA 2011 guidelines gives levy to the usage of either chlorhexidine with alcohol or iodophors.

Although separate guidelines with respect to ED central lines do not exist, it is expected not be any different from the central lines inserted elsewhere with regards to skin preparation recommendations.

OPTIMAL LOCATION OF THE TIP OF THE CVC:

The optimal site of the tip of the CVC is in alignment (ie., parallel) to the great vessel wall outside the reflection of the pericardium. This may be achieved by co-relating with the antero-posterior view chest X-ray finding of a level above the carina(31). This is so recommended that should perforation of the vessel wall occur, it may not result in tamponade. However, the recommended level for Cancer patients is at the junction of the right atrium and superior vena cava (SVC) as they are prone for thrombosis. The risk of thrombosis is higher if the tip is placed higher up in the SVC(13).

MAXIMUM STERILE BARRIER METHODS:

Among the sterile barrier methods recommended are the following- Full sleeved sterile surgical gown, face mask, cap, Eye cover, sterile towels and a sterile drape that fully covers the patient, and in keeping with the use of universal precautions (32). Nowadays, these are a part of the sterile CVC bundle. The CDC guidelines prescribe usage of face shields, eye goggles provided with side shields in the event of an anticipated splash(33). Sterile precautions must be undertaken when the object is considered to be potentially infectious- exposed skin, direct contact with other body fluids/ blood, mucous membranes.

The use of the sterile bundle and maximal sterile precautions is all the more important in the context of the ED patient care, as shown is a study done by Kelen et al, where 64% of all procedures (Of these, 90.4% were blood stained fluids) carried out resulted in contact with blood or body fluids universally affecting all the 18 categories of procedures that were observed save IM injections(34). Given these high rates, the necessity for maximal sterile precautions is hard felt in ED setting. The commonly cited reasons for the avoidance of personal protective equipment in the ED setting are time shortage, lack of knowledge of which PPE to use, unavailability of accessible PPE, assumption that the patient is not infective(35).

EDUCATION AND TRAINING OF THE STAFF:

This has been an integral part of the CVC related infection control. One of the striking examples of this is the implementation of the "Matching Michigan" program in the UK as a part of the NHS as they tried to emulate the rates of CLABSI of the Michigan key-stone project which was 1.4/1000 catheter days. This program included multiple approaches- technical, like strict use of sterile barrier precautions, skin asepsis using 2% chlorhexidine and 70% alcohol, avoid femoral route, CVC maintenance in the form of daily review of the catheters, sterile technique for access, and removal of the CVC at the earliest. The reporting programs were standardized across

the country in accordance with the existing guidelines (in 2009) In Europe and the US. The program was run in and the analysis in this study was in a 20-month period from May 2009 to December 2010. Looking mainly at the non-technical part of the program, it was composed of guidance and teaching resources on safety in the form of power point presentations and WebEx sessions, clinical stories and safety incident videos were played and attendance of sessions were mandated. They also identified hazards and learned from them. Team work and communication were also focused upon with a daily goal check list. The use of these nontechnical interventions along with technical interventions resulted in reduction of rates of CLABSI rates from 3.7/1000catheter days to 1.48/1000 catheter days in the last quarter(36).

This is an example of how an effective training and follow up program can be of immense help to a structured technical intervention program in the reduction of CLABSI.

MONITORING OF THE STAFF:

The monitoring of the knowledge of the trained personnel and the continuing adherence to the established practices is essential to the prevention of CLABSIs. The insertion of the CVC must be undertaken only by trained and accredited personnel or it must be so done under the

supervision of one. Another important aspect with respect to the nursing personnel is the ‘nurse patient ratio’ as an adverse ratio is associated with higher rates of CLASBIs. This has shown to reduce significantly HAI in general and also CLABSIs. A program as shown in the study by Thom et al showed that the presence of unit quality nurse (UQN) decreased the rates of CLABSIs from 5.1 per 1000 calendar days to 1.5 per 1000 calendar days. The job description of the UQN was that of monitoring hospital infection control checklist during the period of the line insertion and giving immediate feedback to the inserting physician as well as monitoring of the practices of infection control in care for the CVC (35).

HAND HYGIENE:

Since its introduction by Semmelweis in the field of obstetrics, hand hygiene continues to remain one of the most important steps in the prevention of any HAI, more so with regards to CLABSIs. The transient flora which are quickly eliminated when hand hygiene is performed according to the prescribed standards and thus breaks the transmission chain(37). The use of hand hygiene either with soap and water or an alcohol based hand-rub has shown to decrease rates of CLABSI. A study by Bishkoff et al showed that in addition to education of healthcare workers, providing an accessible alcohol based hand rub was essential to decrease

the rates of CLABSI(38).The options include alcohol based hand-rub or a soap based scrub usually on a disinfectant base. The particular advantage of scrub to a hand-rub is against the spores of *C.difficile* and when there is visible soiling.

The rates of hand hygiene in ED setting have been evaluated. The compliance with the CDC prescribed 5- step method ranges widely between 10-90%(39). The lower rates of hand hygiene in the ED when compared with ICUs are usually attributed to the urgency of the clinical scenarios, time shortage, and the high patient turnover and overcrowded EDs. Multiple ways to improve the hand hygiene compliance in the ED has been evaluated like mentioned below:

- Educational materials
- High visibility signs
- Installing hand dispenser (both touch free and handle operated)
- Regular appraisal of the hand hygiene compliance
- Personal hand sanitizers
- Regular reporting/ monitoring

Although some of these methods have reported improved compliance, this trend has not been seen universally amongst all the methods used(39). When compared to nurses and nurse practitioners, the emergency physicians had still significantly lower rates of compliance with hand

hygiene methods (85% vs 71% vs 31%, $p < 0.01$ and $p < 0.05$, respectively)(40) .

USE OF THE CATHETER CART/KIT:

The concept of the sterile bundle forms an important component of the catheter cart/kit. The items required for the insertion of the catheter are placed in a kit and transferred in toto. The contents of the kit usually include an antiseptic, cap and face mask, sterile transparent covers for the ultrasound machine probe, full sleeved sterile gown, sterile jelly and a checklist to ensure the presence of these components and the parts of the CVC needed for the insertion by Seldinger technique. The CVC usually comes in the same package or may be provided from outside.

The usage of the catheter kit has proven beneficial in the ICU setting. A Lancet review by Ista et al showed the benefit of implementation of the CVC bundle in ICUs of patients of all ages. The implementation on the CVC bundle decreased the rates of CLABSI from a median of 6.4/1000 calendar days to 2.5/1000 calendar days(41).

This same benefit is also replicated in multiple studies done in ED setting. For example, in a cohort study by Theodore et al, the rate of ED CLABSI were 2.0/1000 calendar days and not statistically different from that of the rates in ICUs (2.3/1000 calendar days). The rates of ED CLABSI pre bundle were 3.0/1000 calendar days and after the implementation of the

bundle were significantly reduced to 0.5/1000 calendar days (p 0.038)(21). The usage of the catheter cart/ sterile bundle provides an important intervention in reducing the rates of CLABSI in both ICUs and in ED settings.

MEASURES TO PREVENT CLABSI AFTER INSERTION

ANTIBIOTIC PROPHYLAXIS

In a Cochrane systematic review by van de Wetering et al, the effect of routine use of antibiotics prior to insertion and during insertion of the catheters were studied in cancer patient with the outcome of the prevention of gram positive CLABSI. The interventions studied were antibiotic use (teicoplanin/vancomycin) prior to insertion and flushing the CVC with vancomycin and heparin vs heparin only. It was observed that the rates of gram positive CVC related blood stream infections were not different in the groups (OR 0.42 with 95% CI of 0.13 – 1.3) although they identified a subset of patient with a baseline high rates of CLABSI more than 15% in whom it may be beneficial (OR 0.43 with 95% 0.21 to 0.42)(42). Although no separate studies exist for ED central lines, this does provide enough information to avoid routine administration of antibiotics prior to insertion.

ANTIBIOTIC IMPREGNATED LOCKS:

Antibiotic impregnated locks refer to usage of supra-normal (more than the physiologic requirement) of a particular antibiotic by instilling it in the lumen of the catheter in between the periods of usage. The commonly used antibiotics/antiseptics are vancomycin, other cephalosporins, ethanol, EDTA, taurolidine, an anti-neoplastic agent and novel agents like minocycline. This method is usually resorted to in high risk patients (hemodialysis catheter)(43). They may be used if the rates of CLABSI are still high provided despite adequate measures being taken to reduce the rates of CLABSI. The strategies must include at least education methods, maximum sterile barrier methods and the use of >0.5% chlorhexidine as an antiseptic (30).

The studies showing benefit of the antibiotic impregnated locks are specific to a subgroup population and therefore affect generalizability of the results to other populations(44) like the ED central line which are essentially different.

CARE AT THE SITE OF INSERTION (ROLE OF DRESSINGS, TOPICAL ANTIBIOTICS AND ANTISEPTIC IMPREGNATED SPONGES):

The options available for dressing the site of insertion include transparent polyurethane sterile dressing without the usage of gauze, polyurethane sterile dressing with gauze, and simple use of gauze and tape. The catheter dressings are not recommended to be removed unless one suspects CLRBSI. The daily inspection of the dressings must include palpation to look for warmth or local tenderness or features to suggest an exit side infection like purulence or redness(30). Gauze dressings (usually indicated in diaphoretic patients and those with oozing from the insertion site) need to be changed if soaked or if not, then every 2 calendar days. The transparent dressings are to be changed every 7 days.

In a systematic review by Hoffman et al, the rates of catheter colonization were higher in the transparent dressing compared with the occlusive (with sterile gauze) dressings (OR 1.78 with 95%CI of 1.28 to 2.30)(45). The rates of bacteremia and sepsis were not significantly different though there was a trend toward higher rates in the group with transparent dressings. Similar findings were also noted for the peripheral catheters. The dressing options according to the current guidelines, is left to the choice of the clinical and the clinical scenario(30).

The use of chlorhexidine sponge is at the site of insertion is mainly endorsed in populations where the rates of CLABSI has not reduced despite successful implementation of other measures to control CLABSIs (30). The initial advantage of the same was shown in an RCT by Timsit et al in 2006 which compared chlorhexidine impregnated sponges at the dressing sites vs transparent polyurethane dressing without the use of sponge. The rates of CLRBSI in these two arms were 0.4/1000 catheter day and 1.6/1000 catheter days respectively with a HR of 0.39 (95% CI 0.17-0.93)(45). The number needed to treat to prevent 1 CLRBSI was 117 catheter days. It was also observed in the same study that there was no increased antibiotic resistance at the insertion sites. The study also looked at 2 different methods of changes of dressings – the 7-day change and the 3-day change and found no difference in the rates between these two strategies. The flip side of the study was the rates of local severe reactions were 5.3 per 1000 CVCs and that the chlorhexidine sponges are not procurable in developing countries.

Topical antibiotic cream usage although was initially recommended among the special group of hemodialysis catheters, it is not routinely used now-a-days due to the inadvertent rise in the local fungal infections and antibiotic resistance(30).

ANTISEPTIC BATHS:

Antiseptic baths refer to daily cleansing of the patient with antiseptic (Chlorhexidine impregnated) towels. In ICU setting, as in the crossover study by Bleasdale et al, it was observed that the intervention of chlorhexidine impregnated towels had lower rates of primary BSI (4.1 vs 10.4/ 1000 calendar days). This result has been replicated in a number of other studies as well(46).

Although no direct ED studies exist on this matter, in a long term acute care setting, a cohort study that studied pre intervention, intervention and post intervention arms of a chlorhexidine impregnated towel bath intervention on the outcome of CLRBSI showed the following rates (9.5 vs 3.8 vs 6.4 cases per 1000 calendar days) thereby proving the reduction in an acute care setting as well(47). This option of antiseptic baths may not directly pertain to our study as the maximum stay in the ED for our patients would always be less than a day but it does find relevance in long term acute care settings.

REMOVAL OF AN UNNECESSARY CVC:

This strategy employs periodic (daily) assessment of the benefit- risk ratio of the catheter. The physician consciously has to make a decision whether to continue with the CVC in situ for that day as every passing day with the CVC in-situ poses further risk of a BSI. The concept of idle venous catheter (those without any therapeutic usage) is well established for peripheral venous lines as in a study in a tertiary hospital which showed a rate of 35% of IV lines were idle for 2 or more calendar days(48). The similar counterpart in CVC will have severe consequence because of the added burden of CLABSI in these patients, thereby unnecessarily increasing the costs. Thus, this does form an important component of the recommendations to prevent CLABSI (30)(49).

"SCRUB THE HUB" STRATEGY:

This refers to cleansing the hubs of the CVC prior to connection or disconnection of an IV set or infusate thereby removing the local site of the colonizing organisms. The cleansing solution used is usually 70% alcohol to disinfect the hubs, ports and the needleless connectors. This is included as a class 1A recommendation for the prevention of CLABSI (30).

ED PERIPHERAL VENOUS LINE ASSOCIATED INFECTIONS:

Although an uncommon cause of infections, peripheral venous lines associated infections have also been described. A study done by Trinh et al identified a total of 24 infections (18 definite and 6 probable) showed a prevalence of 0.7/1000 calendar days of peripheral venous line associated infections. Among the leading risk factors cited for the same were peripheral lines inserted in the ED (odds ratio 6.0) and site of insertion in the antecubital fossa (odds ratio 6.5)(49).

METHODOLOGY

DESIGN:

The study is a prospective observational study that followed up patients of CVC insertion in the ED and medical wards/ICUs.

PATIENT POPULATION:

Inclusion criteria:

- CVCs inserted in ED, Medical wards or MICU/MHDU for patients with medical illness
- CVCs lasting more than 48hrs
- Admission to Medical wards/ MHDU/MICU
- Age > 16 years

Exclusion criteria:

- Refusal to give consent
- Catheters that last less than 48 hours
- Catheters inserted in the ED but not admitted to medical units or MICU/MHDU.
- Catheters inserted in the ED and shifted to medical units who subsequently when on the same catheter are transferred to a non-medical unit.

- Dialysis port, arterial catheters

SETTING:

Christian medical college hospital, established in 1900, is a tertiary care teaching hospital situated in Vellore, Tamil Nadu. It is an important referral center in Tamil Nadu and neighboring states. There are 2700 beds of which 115 beds are allotted for ICU care. Medical Intensive care unit (MICU) and Medical High Dependency Unit (MHDU) have 12 beds each. They receive patients directly from the ED and from Medical Wards through an open admitting system. The ED in CMC Vellore is equally bustling with activity. It has central triage system that triages all patients that present to the ED. The ED has about 74,000 admissions per year.

PRIMARY OUTCOME:

To compare the catheter colonization rates of CVCs inserted in the ED with those inserted in the medical wards/ICU

SECONDARY OUTCOME:

To determine and compare the following rates among CVC inserted in the ED, medical wards/ICU

- The rates of central line related blood stream infection
- The rates of central line associated blood stream infection
- The rates of line site infections

- The rates of compliance to maximum sterile precautions

DEFINITIONS

BLOOD STREAM INFECTION: In a patient with suspected sepsis, the presence of significant (>100,000) CFU of a microorganism in a peripheral blood culture.

CATHETER TIP COLONISATION:

This is defined as presence of growth of more than 15 colony forming unit (CFU) from the catheter tip of an organism known to cause catheter related blood stream infection as detected by a semi-quantitative culture method. In this study, the Maki's roll plate technique has been used.

CATHETER RELATED BLOOD STREAM INFECTIONS: This is defined as positive semi- quantitative (>15 CFU) cultures from the catheter tip and positive peripheral blood cultures where the same micro-organism with the same species and antibiogram is isolated from the catheter segment and peripheral blood.

CATHETER ASSOCIATED BLOOD STREAM INFECTIONS:

BSI is associated with central line if the line was in use for the 48 hours period prior to the development of the blood stream infection. If the time gap between the onset of the infection and the starting of line use is > 48 hours then there should be compelling evidence to attribute the infection to the central line.

LINE SITE INFECTION: Evidence of local insertion site redness, warmth, or purulence in a catheter which is in place for more than 48 hours

STUDY PERIOD: 1 year (Aug 2016 to Sept 2017)

SAMPLE SIZE CALCULATION:

It was hypothesised that the rates of ED CLRBSI would be at the least twice more than those inserted in the ICU/Ward setting. A study done in our institution by Das S et al (2015) showed a MICU/MHDU CLRBSI rate of 3% and a colonisation of 22%. The other studies as done by Trick et al (50)show that the rates of blood stream infection rates are highest for catheters inserted in the ED compared with those inserted on other units (24 vs 1.7 per 1000 catheter-days), P = .045; Assuming that the rates of ED central line related blood stream infections would be at the least twice that

of the Ward/ICU setting, assuming an incidence of 6%, the sample size was calculated, with a 95% confidence interval, and precision of +/-5%,

Formula used:

4pq/d2

4(0.06)(0.94)/ (0.025) = 90

We planned to include 90 in each arm.

DETAILED DESCRIPTION OF THE STUDY:

This was a prospective observational study. The primary investigator ascertained the number of patients with new CVC insertion on a daily basis. The lines fulfilling the inclusion criteria were included in the study after obtaining written consent. The details of the patient demographics, the characteristics of the CVC and the operator, clinical findings at insertion were transcribed onto the clinical research form. The decision to insert the CVC was solely that of the treating physician and not influenced by the primary investigator.

The central line characteristics were ascertained by direct visualization of the CVC to know the type of CVC, site and side of insertion, type of dressing used and the presence of any complications. The physician who

inserted the CVC was questioned within 24 hours of the CVC insertion to ascertain the operator related characteristics.

The CVC used were either single lumen or triple lumen CVC (Arrow multi-lumen central venous catheterization set with blue FlexTip catheter REF CV – 12703) with a single 16-gauge lumen and two 18-gauge lumens. These catheters are made of polyurethane. They are 7F catheters which are 16 cm in length. They are radio opaque and are non-medicated catheters. The choice of the same was that of the treating physician.

Daily ward rounds were undertaken to follow up the study catheters. The evidence of local line site infection and systemic symptoms were documented. The decision however to remove the CVC was solely that of the primary treating physician. The catheter characteristics and clinical data at the removal of the CVC was also collected onto the clinical research form.

The distal 5cm of the CVC were cut and the tip placed inside a sterile test tube and sent to the microbiology lab for analysis using the Maki's roll plate culture semi quantitative technique was used to quantify the bacteria present in the catheter tips. In patient with a suspected CLABSI or CLRBSI, a peripheral venipuncture was performed and 10 cc of blood were drawn using chlorhexidine skin preparation and was sent in BacT/Alert 3D blood culture media.

IRB AND FUNDING:

Institutional review board (research and ethics committee) approval was obtained prior to the commencement of the study (IRB Min. No. 10218 dated 8.8.2016; Fund number 22Z083- appendix 3). Written consent was obtained prior to inclusion.

DATA COLLECTION AND VARIABLES:

The data as mentioned above were collected onto the pre-determined clinical research form (see appendix 1)

STATISTICAL ANALYSIS:

Data from the Clinical Research Form was entered into epidata worksheet and the results were analysed using MS-Excel, epidata and medcal. The distribution of continuous variables like age was expressed in terms of mean and standard deviation. All categorical variables were expressed using frequencies and percentages. Chi-square test was used to find the difference between the catheter-related blood stream infection rates across the 2 groups. The association between the risk factors of the ED central lines and those inserted in the wards/ICUs were assessed using the chi

square test. Clinical predictors of infections were analysed by univariate analysis and their 95% confidence intervals were calculated. For all tests a 2-sided p=0.05 or less were considered significant.

BIASES:

Selection bias:

Consecutive CVCs inserted in wards and ICU in the study period were recruited to avoid the selection bias. However, we do recognize that the information may not be truly representative of all ED CVC in general as the CVC for patients admitted to any of the non-medical unit were excluded due to logistic reasons.

Recall bias:

The information regarding the insertion of the line was obtained by direct questioning of the inserting physician within 24 hours of the procedure to minimize the risk of recall bias.

Interviewer bias:

To minimize the interviewer bias, a standard set of questions were asked according to those prepared in the clinical research form in advance.

Performance bias:

Blinding of the data collectors and the adjucators of the outcome could not be done due to limited man power resources

RESULTS

Table 1. Baseline characteristics:

	ED CVC n=48	ICU/WARD CVC n=89	p value
Mean age (SD)	51.7 (13.5)	47.4 (14.6)	0.0975
Gender (Male: Female)	1.4:1	1.2:1	
Indication of insertion			
Hemodynamic instability	39(83%)	41(46%)	0.030
Anticipate worsening	5(10%)	23(26%)	0.055
Lack of peripheral access	0	2(2%)	
Others*	4(7%)	23(26%)	0.963
Side of insertion			
Right	47(98%)	80(90%)	0.084
Left	1(2%)	9(10%)	0.167
Site of insertion			
Jugular	7(15%)	52(60%)	< 0.05
Femoral	40(83%)	25(27%)	< 0.05
Subclavian	1(2%)	12(13%)	< 0.05
Prior antibiotics received			
Yes	6(13%)	51(57%)	< 0.05
No	42(87%)	38(43%)	<0.05

*Others include low sensorium and patients already intubated

BASELINE CHARACTERISTICS:

- The mean age of the population in the ED CVC arm was 51 years and in the ICU/Ward CVC arm was 47 years.
- There was slight male preponderance in both the groups.
- Most of the lines were inserted mainly for hemodynamic instability (89% and 71% respectively). There was a significant difference in the indication for CVC insertion between the arms.
- The side of insertion was preferably right side in both groups with no difference between the groups.
- The site of insertion was significantly different between the groups. The ED CVC were predominantly inserted in the femoral site and the ward/ICU CVC were predominantly inserted in the jugular site.
- The proportion of all the CVC in that arm that were inserted in the subclavian was significantly very low in the ED CVC arm (only 2%) whereas it was 13% of all ward/ICU CVCs.
- It is important to note that a large amount of the patients studied in both the arms had received antibiotics in the prior 24 hours before the CVC was inserted and difference was significantly lower in the ED CVC arm.

. VITAL SIGNS AT ADMISSION AND INSERTION:

- The vital signs at the time of admission showed that the mean pulse for the ED CVC and ICU/Ward CVC were 122 bpm and 111 bpm respectively.
- The mean systolic BP was 85mmHg for the ED CVC and 114mmHg for the ICU/ward CVCs and similar trend was noted in the diastolic BP as well, the numbers being 54mmHg and 74mmHg respectively.
- The mean respiratory rate was same in both the arms.
- The mean spO2 was also similar 91% and 89% respectively.
- The vital signs at the time of insertion were 111 bpm and 106 bpm for the ED CVC and ICU/ward CVC arms.
- At insertion, the mean systolic BP was 87mmHg and 113mmHg respectively and similar trend noted in the mean diastolic BP as well which was 58mmHg and 75mmHg respectively.
- The mean respiratory rate was 29/min and 26/min respectively and the mean SpO2 being just over 95%.
- At admission, 64% of all patients in the ED CVC arm had low systolic BP (<90mmHg) and 43% of these patients had low diastolic BP (<60mmHg)
- The proportions at patients in the ED CVC arm at the time of insertion of the catheter with low systolic and diastolic BP were 50% and 41%

respectively and the same data of the patients in the ICU/ward CVC arm were 9% and 3% respectively.

Table 2. Vital signs at admission and insertion

	ED CVC n=48	ICU/WARD CVC n=89	p value
At admission			
Pulse rate Mean (SD)	122(25.2)	111(21.4)	0.0079
Systolic BP in mmHg (SD)	85(23.9)	114(32.9)	<0.05
Diastolic BP in mmHg (SD)	54(16.5)	73(20.1)	<0.05
Respiratory rate	30	30	
SpO2(%)	91%	89%	
At insertion			
Pulse Mean (SD)	111(17.4)	106(14.9)	0.0798
Systolic BP in mmHg (SD)	87(22.2)	113(18.1)	<0.05
Diastolic BP in mmHg (SD)	58(18.1)	75(10.7)	<0.05
Respiratory rate	29	26	
SpO2(%)	95%	96%	

- At the time of insertion of the catheter, 25% and 55% of the patients in the ED CVC arm and the ward/ICU arm respectively were on ET tube or NIV

- 83% of the ED CVC patients and 41% of the ward/ICU patients were on inotropes at insertion.

Table 3. Co-morbidities

CO-MORBIDITIES	ED CVC n=48	ICU/WARD CVC n=89
Diabetes mellitus	26(54%)	37(41%)
HTN	17(35%)	30(33%)
CKD	8(16%)	10(11%)
IHD	13(27%)	24(26%)
CVA	3(6%)	7(7%)
HIV	2(4%)	4(4%)

CO-MORBIDITIES:

- The most common co-morbidity these patients had was diabetes comprising 54% in the ED CVC arm and 41% in the ICU/ward arm.
- The proportion of HTN was 35% and 33% in these arms followed by IHD which was 27% and 26% respectively.
- CKD comprised of 16% and 11% of the patients respectively
- CVA comprised of 6% and 7% respectively and HIV positive patients were 4% each in both the groups.

ADMISSION DIAGNOSIS:

Table 4. Admission diagnosis

	ED CVC n=48	ICU/WARD CVC n=89
Pneumonia	13(27%)	31(36%)
Urinary tract infection (UTI)	7(14%)	9(10%)
Acute undifferentiated febrile illness (AUFI)	4(8%)	9(10%)
Acute coronary syndrome (ACS)	4(8%)	2(2%)
Poisoning	5(10%)	4(5%)
Cerebrovascular accident (CVA)	0	2(2%)
Meningitis	1(2%)	5(7%)
Seizure	0	3(3%)
Fever of unknown origin (FUO)	1(2%)	3(3%)
Septic shock (no focus)	4(8%)	4(4%)
Cardiogenic shock	4(8%)	3(3%)
Others*	5(10%)	14(15%)

*Others: Pulmonary Embolism (1), Hypokalemic paralysis (1), SLE with flare (1), Hypercalcemia (1), Metabolic encephalopathy (2), Cholangitis (1), Heat stroke (1), Infective spondylitis (1), COPD with respiratory failure (3), Anemia in failure (2), Invasive fungal sinusitis (1) and pyoderma gangrenosum (1), DKA (1), AGE (2)

- The most common admission diagnosis was pneumonia which constituted 27% and 31% respectively of the patients in the ED CVC and ICU/ward arms respectively.
- This was followed by UTI which comprised of 14% and 10% respectively.
- There was a small representation in both the arms with AUFI (acute undifferentiated febrile illness), ACS (acute coronary syndrome), CVA (cerebrovascular accident) and poisoning (also including envenomation).
- (26/48) 54% and (28/89) 31% of the patients in the ED CVC and ICU/ward CVC arms respectively were admitted with a diagnosis of septic shock
- A diagnosis of cardiogenic shock was made in (11/48) 23% of ED CVC and (8/89) 9% of the ward/ICU CVCs respectively.

OUTCOMES:

Table 5. Primary and secondary outcome:

	ED CVC n=48	ICU CVC n=54	ward CVC n=35	p value	RR	95% CI
CVC colonization	7(14.8%)	9(16.6%)	9(25.7%)	0.742	0.86	0.346 to 2.127
Rate of colonization	30.3	24.5	25.3			
CLABSI	1 (2.08%)	4(7.5%)	0	0.242	0.27	0.031 to 2.38
Rate of CLABSI	4.39	10.89	0			
CLRBSI	1 (2.08%)	3(5.6%)	0	0.379	0.36	0.039 to 3.42
Rate of CLRBSI	4.39	8.17	0			
Line site infection	2 (4.16%)	1 (1.8%)	1(2.7%)	0.512	2.21	0.206 to 23.58
Rate of LSI	8.65	2.72	3.89			

Legend: All rates of CLABSI, rates of CLRBSI, rates of LSI and rates of colonization are expressed in per 1000 calendar days

P value and RR is calculated for ED CVC vs ICU CVC

PRIMARY OUTCOME:

Rate of catheter colonization:

- Catheter colonization rate of ED CVC: 7/231 x 1000 = 30.3/1000 calendar days
- Catheter colonization rate for ward CVC: 9/257 x 1000 = 25.3/1000 calendar days
- Catheter colonization rate for ICU CVC: 9/367 x 1000 = 24.5/1000 calendar days
- Catheter colonization rate for ward/ICU CVC: 18/624 x 1000 = 28.8/1000 calendar days

- Proportion of the ED CVC colonized was 14.58%
- Proportion of the ward CVC colonized was 25.7%
- Proportion of the ICU CVC colonized was 16.6%
- Proportion of ward/ICU CVC colonized was 20.0%

RR of ED CVC colonized compared to ICU/ward CVC: 0.8112 (95% CI 0.3587 to 1.8343), (p value 0.6152)

RR of ED CVC colonized compared to ICU CVC: 0.858 (95% CI 0.346 to 2.127), (p value 0.742)

Although the rates of catheter colonization and proportion of catheters colonized were higher in the ED, there was no statistically significant difference between the ED CVC and ICU CVC.

SECONDARY OUTCOMES:

Rate of CLABSI:

- CLABSI rate for ED CVC: 1/231x 1000 = 4.39/ 1000 calendar days
- CLABSI rate for ICU/ward CVC: 4/624 x 1000 = 6.41/ 1000 calendar days
- CLABSI rate for ICU CVC: 4/367x 1000 = 10.89/ 1000 calendar days

- Proportion of the ED CVC with CLABSI was 2.08%
- Proportion of the ICU/ward CVC with CLABSI was 4.49%
- Proportion of the ICU CVC with CLABSI was 7.5%

RR of ED CVC CLABSI compared to ICU/ward CVC: 0.4635 (95% CI 0.0532 to 4.0317), (p value 0.4860)

RR of ED CVC CLABSI compared to ICU CVC: 0.27 (95% CI 0.031 to 2.38), (p value 0.242)

Rate of CLRBSI:

- CLRBSI rate for the ED CVC: 1/231x 1000 = 4.39/ 1000 calendar days
- CLRBSI rate for the ICU CVC: 3/367x 1000 = 8.17/ 1000 calendar days
- CLRBSI rate from ICU/ward CVC: 3/624x 1000 = 4.73/ 1000 calendar days

  - Proportion of the ED CVC with CLRBSI was 2.08%
  - Proportion of the ICU CVC with CLRBSI was 5.6%
  - Proportion of the ICU/ward CVC with CLRBSI 3.37%

RR of ED CVC CLRBSI compared to ICU/ward CVC: 0.6732 (95% CI 0.066 to 5.781), (p value 0.4860)

RR of ED CVC CLRBSI compared to ICU CVC: 0.36 (95% CI 0.039 to 3.42), (p value 0.379)

Rate of line site infection:

- Line site infection rates in ED CVC: 2/231 x 1000 days = 8.65 per 1000 calendar days

- Line site infection rates in ICU CVC: 1/367 x 1000 days = 2.72 per 1000 calendar days
- Line site infection rates in ward CVC: 1/257 x 1000 days = 3.89 per 1000 calendar days
- Line site infections rate in ICU/ward CVC: 2/624x 1000 days = 3.15 per 1000 calendar days
    - Proportion of ED CVC lines with line site infection was 4.16%
    - Proportion of ICU CVC lines with line site infection was 1.8%
    - Proportion of ward CVC lines with line site infection was 2.7%
    - Proportion of ICU/ward CVC lines with line site infection was 2.24%

RR of ED CVC line site infection compared to ICU/ward CVC: 1.854 (95% CI 0.2696 to 12.752), (p value 0.5303)

RR of ED CVC line site infection compared to ICU CVC: 2.21 (95% CI 0.206 to 23.52), (p value 0.52)

There was a trend of higher CLABSI and CLRBSI rates in the ICU CVCs and higher line site infection rates with ED CVCs.

However, there was no statistically significant difference between the groups with regards to catheter colonization, CLABSI and CLRBSI.

OPERATOR RELATED CHARACTERSTICS

- 45% and 65% of the lines in the ED CVC and the ICU/ward CVC arms respectively were reported to be inserted within 1 attempt. This was followed by 2 attempts reported for 25% and 29% of the CVCs respectively.
- Of the ED CVCs 54% of them were inserted requiring more than 1 attempt. Of the ICU CVCs, 25% required more than 1 attempt and of the ward CVCs, 54% required more than 1 attempt. The number of attempts ranged from 1-2 for the ICU CVCs and 1-3 for the ED CVCs.
- 99% of all the CVCs in both the arms were inserted by registrar in training and 1% by interns.
- 25% of the CVC insertion in the ED CVC arm was supervised by a second physician and 11% of the CVCs required the help of a second physician whereas among the ICU CVCs 5% were supervised insertion and 3% required the help of a second doctor. Of the ward CVCs 11% required supervision and 11% required help while insertion.
- 60% of the operators of the ED CVC and 52% of the operators of the ward/ICU CVC (62% and 37% for ICU CVCs and ward CVCs respectively) had an experience of inserting 10-30 CVCs.
- The proportion of operators who had inserted more than 30 CVC was 25% in the ICU/ward CVC arm and only 10% in the ED CVC arm.

Table 6. Operator related characteristics:

	ED CVC n=48	ICU CVC n=54	Ward CVC n=35	RR*	P value*	95%CI
No. of attempts (mean)	1.62	1.24	1.74			
1	22(45%)	41(75%)	16(45%)			
2	22(45%)	13(25%)	14(40%)			
3	4(10%)	0	3(10%)			
4	0(0%)	0	2(5%)			
No.of attempt(stratified)						
1	22(45%)	41(75%)	16(45%)			
>1	26(55%)	13(25%)	19(55%)	2.25	0.003	1.31 to 3.86
USG guided procedure	2(4%)	38(70%)	8(23%)	0.059	0.01	0.01 to 0.23
Inserted by						
Registrar	47(99%)	54(100%)	34(97%)	0.97	0.44	0.92 to 1.03
Intern	1(1%)	0	1(3%)			
Supervised by 2nd physician	12(25%)	3(5%)	4(11%)	4.50	0.01	1.35 to 14.9
Required help of 2nd doctor	10(21%)	2(3%)	4(11%)	5.62	0.02	1.29 to 24.2
Experience of operator						
<10 CVC inserted	14(29%)	6(12%)	12(35%)	2.62	0.03	1.09 to 6.2
10-30 CVC inserted	29(60%)	34(62%)	13(37%)	0.95	0.79	0.70 to 1.3
>30 CVC inserted	5(11%)	14(26%)	10(28%)	0.32	0.01	0.12 to 0.83
Experience at that site						
<5 CVC inserted	13(27%)	7(13%)	12(34%)	2.08	0.08	0.90 to 4.80
5-15 CVC inserted	30(63%)	33(61%)	13(38%)	1.02	0.88	0.75 to 1.38
>15 CVC inserted	5 (10%)	14(26%)	10(28%)	0.41	0.06	0.15 to 1.05

PROCEDURE RELATED CHARACTERSTICS:

- 43% of the ED CVC and 92% of the CVCs inserted in the ICUs and 20% of the ward CVCs had followed maximum sterile precautions.
- 54% of the ED CVC and 88% of the ICU CVCs reported drawn screens at the time of insertion. 77% of the ward CVCs reported drawn screens.
- 81% of the ED CVC arm, 100% of the ICU arm and 91% of the ward CVCs reported following hand hygiene techniques
- With regards to the individual components of the maximum sterile barrier technique, it was found that the use of caps had least compliance among both the arms at 66% and 64% respectively in the ED CVC and ICU/ward arms. The use of caps was 92% among ICU CVC and 20% among ward CVCs.
- However, the use of other components like apron, gown, towel and sterile gloves showed good compliance in both arms.
- The use of face mask was 83% for ED CVCs, 96% in the ICU arm and 57% in ward CVCs.
- The dressing type used for the insertion site was also different showing a proportion of 60% of all ED CVC and 4% on all ICU CVCs and 37% of all ward CVCs having an opaque dressing. The numbers of transparent sterile dressings without gauze was 92% in the ICU CVCs, 60% in the ward CVCs and 39% in the ED CVCs.

Table 7. Procedure related characteristics:

PROCEDURE RELATED CHARACTERSTICS	ED CVC n=48	ICU CVC n=54	Ward CVC n=35	RR*	P value*	95% CI
Maximum sterile precautions$	21(43%)	50 (92%)	7(20%)	0.49	<0.05	0.35 to 0.68
Screens drawn	26(54%)	48(88%)	27(77%)	0.61	<0.05	0.46 to 0.80
Hand wash done	39(81%)	54(100%)	32(91%)	0.81	<0.05	0.70 to 0.95
Sterile barrier						
Cap	32(66%)	50(92%)	7(20%)	0.72	0.026	0.58 to 0.89
Face mask	40(83%)	52(96%)	20(57%)	0.86	0.03	0.75 to 0.99
Apron	43(89%)	53(98%)	30(86%)	0.91	0.08	0.82 to 1.01
Gown	46(93%)	53(98%)	28(80%)	0.97	0.50	0.91 to 1.04
Towel	47(97%)	54(100%)	32(91%)	0.97	0.44	0.92 to 1.03
Gloves	48(100%)	54(100%)	35(100%)	0.99	0.95	0.96 to 1.03

*comparison of p value and RR is made for ED CVC vs ICU CVCs

$Maximum sterile precautions refer to use of cap, sterile gown, towel drape, sterile gloves, face mask and using a cleansing solution (2% chlorhexidine or betadine)

	ED CVC n=48	ICU CVC n=54	Ward CVC n=35	RR	P value	95% CI
Dressing type						
Opaque	29(60%)	2(4%)	13(37%)	16.3	<0.01	4.1 to 64.7
Transparent with gauze	0	2(4%)	1(3%)	-		
Transparent without gauze	19(40%)	50(92%)	21(60%)	0.42	<0.01	0.29 to 0.61
Number of times dressing changed. mean(range)	0.75(0-4)	1.52(0-4)	1(0-4)			
0	25(52%)	6(11%)	13(37%)	4.68	<0.05	2.1 to 10.4
1	13(26%)	15(28%)	13(37%)	0.97	0.93	0.51 to 1.83
2	8(16%)	18(34%)	7(20%)	0.50	0.06	0.23 to 1.04
3	2(4%)	10(18%)	1(3%)	0.22	0.04	0.05 to 0.97
4	1(2%)	5(9%)	1(3%)	0.22	0.17	0.02 to 1.89
Catheter type						
Triple lumen	48(100%)	54(100%)	33(94%)	0.99	0.95	0.96 to 1.03
Single lumen	0	0	2(6%)	-	-	-

- The number of times the dressing was changed ranged from 0-4.
- 52% of the ED CVC did not have a dressing changed and similar characters were seen only in 11% of the ICU CVCs and 37% of the ward CVCs.
- The proportion of cases with dressings changed over 2 or more times was 56% in the ICU CVCs, 26% in the ward CVCs and 33% in the ED CVCs.

CATHETER CHARACTERISTICS AT REMOVAL:

- The most common indication for removal of catheter was that the CVC was no longer required. 91% of the ED CVC and 83% of the ICU/ward CVC were removed for this reason.
- Systemic symptoms were present in 12% of the patients in the ED CVC arm and 33% of the patients in the ICU CVCs and 8% of the ward CVCs.
- Local symptoms at the site of the CVC insertion were seen with 4% of the ED CVC and 2% of the ICU CVCs.

Table 8. Catheter characteristics at removal

	ED CVC n=48	ICU CVC n= 54	Ward CVC n= 35	RR*	P Value*	95% CI
Systemic symptoms present	6(12%)	18(33%)	3(8%)	0.37	0.02	0.16 to 0.86
Fever$	5(10%)	17(31%)	3(8%)			
Chills	1(2%)	2(3%)	0			
Local symptoms present	2(4%)	2(2%)	0	1.12	0.90	0.16 to 7.6
Catheter days. median IQR	4 (2-7)	7(2-12)	7(2-12)			
<8days	40(83%)	33(61%)	18(51%)	1.36	0.014	1.06 to 1.74
<4days	15(31%)	5(9%)	3(8%)	3.37	0.017	1.32 to 8.5
Blood transfusion	5(10%)	3(6%)	5(14%)	2.25	0.17	0.65 to 10.08
Ventilator used	23(47%)	51(94%)	19(54%)	0.50	<0.05	0.37 to 0.68

* RR and p value comparison is for ED CVCs vs ICU CVCs

$ The final diagnosis of the patients that had systemic symptoms but no documented evidence (n=15) of culture positivity were H1N1 Pneumonia (4), Cryptococcal meningitis (1), GNB sepsis (3), Heat stroke (1), OP with Intermediate syndrome (1), Aspiration pneumonia (1), Ventilator associated pneumonia (1), Fungal pneumonia (1), Wegener's disease (1), Pyelonephritis (1).

- The median number of days that the CVC were in situ was 4 days for the ED CVC and 7 days for the ICU CVCs and ward CVCs.
- The number of catheter days however ranged from 2-14 days in ED CVC and ward CVC and 2-23 days for the ICU CVC.
- The number of catheter of the ED CVC arm that stayed for less than 1 week was 83% and 57% for the ward/ICU CVCs.
- The number of catheter that lasted less than 4 days was 31% in the ED CVC, 9% in the ICU CVCs and 8% of the ward CVCs.
- 10% of ED CVCs, 6% of the ICU CVCs and 14% of the ward CVCs were also used for blood transfusion.
- 47% of the ED CVC, 94% of the ICU CVC and 54% of the ward CVC were noted to be used on patients with ventilator.

MICROBIOLOGY OF COLONISED CATHETERS

- A total of 23/137 were colonized.
- ED CVC had polymicrobial organisms and ICU/ward CVC had only monomicrobial organisms.
- Of these the proportion of ED CVC colonized was 14.58% and ICU/ward CVC colonized was 17.97%.
- Of the monomicrobial colonizers, the most common were GNB (12/21) followed by GPC (7/21) and candida (2/21).

- In both groups most of the infections were caused by CONS. The proportion of NFGNB was particular high among ICU/ward CVC compared to the ED CVCs.

Table 9. Microbiology of colonized catheters

Total Colonized CVCs n=23	ED CVC n=7	ward/ICU CVC N=16
Polymicrobial*	2(28%)	0
Monomicrobial	5(71%)	16(100%)
Coagulase negative staphylococcus(CONS)	2(28%)	7(44%)
Non-fermenting gram-negative bacilli (NFGNB)	1(14%)	4(25%)
Candida	1 (17%)	1(6%)
Pseudomonas	0	1(6%)
Enterococcus	0	2(12%)
Alpha hemolytic streptococcus	0	1(6%)
Methicillin sensitive staphyloccus (MSSA)	1(14%)	0

*Polymicrobial organism were 1, Klebsiella and Enterococcus 2, CONS and Klebsiella

- Of all the gram-negative infections, most were caused by NFGNB (26%) followed by Pseudomonas (22%) and among the gram-positive organisms, the most common was by CONS followed by Enterococcus and MSSA.

Table 10. Risk factors for CLRBSI (for all CVC):

CLRBSI RISK FACTORS	ED CVC	Ward/ICU CVC	RR	p value	95% CI
>1 attempt at insertion	1/26	3/32	0.307	0.27	0.03 to 2.5
USG guided insertion	1/ 2	3/46	5.44	0.08	0.78 to 37.8
Night time insertion	1/21	3/33	0.52	0.56	0.05 to 4.70
Experience: total CVC <30	1/33	3/65	0.65	0.71	0.07 to 6.07
Experience at that site: <15 CVC	1/43	3/65	0.50	0.54	0.05 to 4.68
Max. sterile precautions	1/21	3/57	0.90	0.441	0.09 to 8.22
Opaque dressing	1/29	3/15	0.172	0.113	0.01 to 1.51
Number of dressing changed <3	1/41	3/72	0.58	0.639	0.06 to 5.44

The relative risk for ED CVC compared to a ICU/ward CVC to result in a CLRBSI for the above-mentioned factors was looked at and it was found in that the relative risks were not statistically significant. Larger sample size would be required to fully determine the effects of the above risk factors on ED CVC CLRBSI.

DISCUSSION

Our study was a prospective observational cohort study that looked at the clinical characteristics and the rates of infections among the CVC inserted in ED, medical wards and ICUs.

Rates of CVC colonization and infections:

It was noted that the rates of colonization of CVC, CLABSI, CLRBSI and line site infections were not statistically different between the ED CVC and ICU CVCs.

The rates of colonization of the ICU CVC were lower than a similar unpublished study (Sohini et al 2014) at our institution which had showed a colonization rate of 33.9/1000 calendar days. This probably hints towards a decreasing trend of catheter colonization here. The reason for the higher rates of CVC colonization in ED was probably due to the more busy, crowded and volatile environment in ED compared to the controlled environment of the ICUs. This was similar to the results published by Trick et al (50) and the meta-analysis by LeMaster et al (8) which showed no difference in these rates between ED and ICUs. The rates of ED CVC CLABSI reported in our hospital was higher than that of studies done elsewhere. For example, Theodoro et al (21) had reported ED CLABSI rates of 2.0/1000 calendar days. Despite the higher baseline rates of

CLABSI, there appear to be no statistical difference between the ED and ICU CVCs in our hospital.

The pattern of increased CLRBSI and CLABSI in ICU CVC could be explained by longer duration of these CVC (higher proportion lasting more than 7 days) which is an important factor for development of infections.

Ideally, to prove a line insertion site infection, a swab from the insertion site proving the organism involved should have been done but in our study, we considered only the clinical characteristics as a surrogate marker for line site infection. So, the actual line site infections would probably be lower than reported in our study.

Our study looked at the clinical characteristics of CVC inserted in ED, medical wards and ICUs. The indication for insertion of the ED CVC was predominantly hemodynamic instability. The insertions in ED were happening simultaneously with patient resuscitation. In the ward/ICU, which is a controlled environment, CVC were electively inserted for anticipated worsening. Over 90% of all CVC were inserted in the right side as most of the operators were right handed. These numbers were slightly higher than another ED CVC studies by Karimi-sari et al (53) which showed 80% of right sided insertion. The site of catheter insertion was significantly different. The possible reasons for femoral choice in ED would be the ease of access to CVC insertion, the need for rapid access in

emergency situation and experience and the learning curve involved in the different CVC sites, coagulopathy in the patients at the time of admission and the need for access to blood product support just prior to insertion in the case of jugular and subclavian lines. More than half of our patients in the ICUs had received antibiotics for the past 24 hours prior to insertion thereby making the interpretation of the culture reports with extreme caution.

CVC characteristics at insertion:

Less than half of the operators of ED and ward CVC reported 1 attempt in inserting CVC while two-thirds of the ICU CVCs were reported to be inserted in 1 attempt. In a similar study by Karimi-sari et al, that looked at the number for attempts for ED CVC insertion, they reported a mean of 1.12 ± 0.3 times for USG guided and 1.58 ± 0.64 times for blinded CVC insertions (53). In the same study 80% of all insertions (both USG guided and not guided) were done in the first attempt. This rate was similar to our study's ED CVC attempts where majority of the insertions were based on anatomical landmarks. The mean number of attempts was lower in ICU CVC because of use of USG guided insertion and higher proportion of experienced operators.

When comparing with the study of Sohini et al 2014, the rates of USG guided procedure had come down from 88% to 70% for the CVC inserted in ICU suggesting a decline in USG guided practices in ICU as well.

The rates of low CVC insertion under USG guidance (4%) suggests a different environment in the ED setting with rapidity of access, increased crowding, high patient turn-over, less time and hemodynamic instability that warranted urgent CVC access.

Supervision of the insertion would improve compliance to maximum sterile methods and also probably easier insertion. In a study by Guzzo et al (51), the rates of supervision for ED CVC (of all patients including trauma, surgical cases and subclavian insertions) was 39%. In our study the proportions of supervised and aided insertions were comparatively low (25% and 23% for the ED CVCs) and even lower for ICU CVC with the limitation of reporting bias. The difference between ICUs and ED CVC in our study could reflect a difference in the experience pattern and confidence of the physicians working in ICUs and ED and the obvious differences in the environment between the two settings.

The compliance of maximum sterile precautions was highest for the ICUs followed by ED CVCs. It is important to note that ED CVCs had better compliance than ward CVCs. The meta-analysis by LeMaster et al also

showed a compliance rate of 33%-96.5%(8) in various studies and even using the gold standard of video tapping of the insertion procedure still showed compliance rates of 33%-88%(51). This shows that our study had compliance rates on the lower end of the spectrum as compared to other studies. This difference could be explained by the overcrowding in ED, the urgency of CVC insertion, hemodynamic instability of the patients and operators with lesser experience compared to a more controlled environment in ICUs.

A Study by Liang et al (36) revealed ED compliance for hand hygiene ranging from 10-99%. In our study, compliance to hand hygiene was significantly better in the ICU arm as was the compliance to screen being drawn at the time of insertion. However, it must be noted that our study only assessed the hand hygiene methods as reported by the operator and was not assessed independently by direct observation of the 5-step method of hand-wash or a video based technique. Thus, the actual rates would probably be lower than reported.

The compliance to the use of caps were the lowest in both arms whereas the use of gowns, aprons, sterile towel and gloves were ranging from 89%-100%. This is probably because caps are not included as a part of the sterile bundle and hence not frequently used.

CVC characteristics at removal:

The use of opaque dressing with a sterile gauze was highest in the ED CVC. These dressings were used in the context of difficulty in procuring a sterile transparent dressing or coagulopathy wherein a compression elastic dressing would be required. Proportion of dressing change was also lowest for ED CVC compared to ICU CVCs. This could be explained by the lesser number of median calendar days that the ED CVC lasted compared to ICU and ward CVCs. This result was similar to a meta-analysis by LeMaster (8) which also showed that ED CVC lasted for significantly shorter duration. The difference in the change of the CVC dressing would also depend on the place where the patient was shifted to. If the patient was shifted to the ICU, the CVC were subjected to an established nursing protocol of change in dressing every 72 hours, whereas such a protocol was not established or followed rigorously in the wards.

A total of 26 patients had systemic symptoms while on CVC whereas only 9 patients had blood culture positivity suggesting a CLABSI or a CLRBSI. We studied the patient profile and final clinical diagnosis of the rest of the 17 cases. 16/17 had an alternate final diagnosis of an infective focus suggesting probably that the systemic symptoms were unrelated to the

catheter already in situ and 1 case was that of OP poisoning with intermediate syndrome in whom the focus of infection could not be identified. However, this could also suggest the effect of antibiotics already used that decreased the chance for blood culture positivity.

In summary, there was no statistical significant difference in the rates of ED CVC, ICU CVC and ward CVC with respect to catheter colonization, CLABSI, CLRBSI and line site infection. However, this information is limited by the low sample size and low event rate. The ED and ward CVCs are different with regards to maximum sterile precautions used, use of USG guidance, expertise of the operators and number of calendar days the CVCs last. In addition to situational differences, there exist differences in catheter and operator related characteristics between ED CVCs and ICU CVCs.

STRENGTHS

A sample size of 137 CVCs and a total of 855 calendar days were studied, of which 48 ED CVC and 231 ED CVC calendar days were studied. To our knowledge, this is the first Indian study looking at the rates of infections of ED CVC and the clinical characteristics of these CVCs. This is also among the few studies in which the ED CVC characteristics were followed up through its in-hospital stay.

LIMITATIONS

Our method of data collection was by verbal interview of the CVC operators within 24 hours of the time of insertion. Other methods like video tapping of the procedure or direct observation from an independent observer would have yielded better quality of information regarding the sterile techniques but could not be performed due to other constraints.

The rates of catheter colonization and CLABSI and CLRBSI were not statistically different in the arms but this could not be fully commented upon as the full sample size of the ED CVC could not be reached and because the event rates were very low.

The information is limited to patients admitted to medical wards and medical ICUs only. As the ED sees a lot of patients including, ortho trauma and other surgical specialties which may have different characteristics compared patients with medical illness, the generalizability of these results cannot be done to all ED patients.

FURTHER RESEARCH

In Indian setting, further trials that assess the rates of infections in a prolonged acute medical care setting are necessary to ascertain the risk of CVC associated infectious complications especially with regards to factors that continually influence risk of infections.

Larger comparative studies inclusive of ED CVCs from all branches (medical and surgical) are necessary in the Indian context to be able to increase the generalizability of the results of ED CVCs for all the ED patients.

Quantification of the effect of cost of the ED CVC related infectious complications in addition to the cost incurred from the other hospital acquired infections are necessary to be able to understand better the economic burden of the same and the contribution to this economic burden of the ED CVCs.

CONCLUSION

The rates of CVC colonization, CLABSI, CLRBSI and line infection rates were not statistically different among ED CVCs and ICU CVCs.

ED CVC were different from CVC put in ICUs with regards to

- Lower rates of antibiotic administration prior to insertion of CVC (13% vs 57%)
- Lower use of USG guided insertion (4% vs 70%)
- More number of femoral insertions (83% vs 27%)
- Significant proportion of patients requiring more than 1 attempt for CVC insertion (55% vs 25%)
- Lower compliance with maximum sterile precautions. (43% vs 92%)
- Lower proportions of hand wash done (81% vs 100%)
- More supervised (25% vs 5%) and aided (25% vs 3%) insertions
- Lesser operator experience (>10 CVC inserted – 71% vs 88%)
- More opaque dressings (60% vs 4%)
- Lesser dressing changes (proportion with no dressing changes - 52% vs 11%)
- Shorter duration of CVCs (proportion less than 4 days- 31% vs 9%)

ED CVCs were different from the medical ward CVCs with regards to

- Better compliance with maximum sterile barrier precautions (43% vs 20%)
- Lesser proportions of hand wash done (81% vs 91%)
- Lower use of USG guided insertions (4% vs 23%)
- Lesser operator experience (>10 CVC inserted – 71% vs 65%)
- Higher proportions supervised (25% vs 11%) and aided (21% vs11%)
- Higher proportions of opaque dressing used (60% vs 37%)
- Lesser dressing changes (proportion with no dressing changes - 52% vs 37%)
- Shorter duration of CVCs (proportion of CVCs less than 4 days - 31% vs 8%)

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Appendix 1:

CLINICAL RESEARCH FORM

COMPARISON OF THE CLINICAL CHARACTERISTICS OF CENTRAL LINES INSERTED IN THE ED AND MEDICAL WARDS AND ICUs

PART I: DATA ABSTRACTION FORM (TO BE FILLED AT THE TIME OF CVC INSERTION)

Name		Hospital No.	
Age		Serial No.	
Sex			
Date of insertion		Date of admission	

Indication for catheter insertion:

Hemodynamic instability	Lack of peripheral venous access	Anticipate worsening

2. Pre existing medical Conditions:

Diabetes	Hypertension	CKD	CLD
COPD	IHD	CVA	HIV

3. Site of CVC insertion:

3a.Side: Left / Right 3b. Site: Internal Jugular/ Femoral / Subclavian

4. Has the patient received antibiotics within 24hr before insertion of the catheter: Yes / No

5. Number of calendar days of in-hospital stay in CMC [ ][ ] prior to insertion of CVC

6. Was the patient admitted elsewhere prior to coming to CMC? Yes/No

7. Duration of fever at the time [ ][ ] of/ prior to insertion:

8. Admission Diagnosis

AUFI	Acute coronary syndrome	Poisoning	others
Stroke	UTI	Pneumonia	Meningitis

9. Admission vitals

10. Vitals before the time of Insetion:

Pulse			
BP (sys)			
BP (dia)			
RR			
spO2			

Pulse			
BP (sys)			
BP (dia)			
RR			
spO2			

OPERAT

OR / PROCEDURE RELATED

FACTORS:

1. Number of attempts: _____ 2.

   Under USG guidance: Yes/No

3. Time of Insertion _ _: _ _ (HH:MM) 4.

   Date of Insertion: __/ __/ ____

5. Place of CVC insertion: Emergency Medicine Dept / MICU / MHDU /wards

   5a. If ED, then specify; RR1/ Centre bay/ Outer Bay

   5b. Number of patients in the bay at the time of line insertion: ___

6. CVC inserted by Consultant / Registrar / Intern

7. Was maximum sterile precautions used? Yes/ No

8. Was the insertion supervised by a second physician? Yes/ No

9. Did the procedure require a second physician to attempt to insert the line? Yes/ No

10. Total no. of CVCs inserted by the operator <10 10 – 30 >30

11. No of CVCs inserted at this site <5 5 – 15 >15

12. Were the screens drawn at time of procedure? Yes/ No

13. Hand hygiene prior to insertion? Soap, water/Alcohol rub/Not done

14. Maximum sterile barrier

Cap	Facemask	Apron	Gown	Towel	steriledrape	sterilegloves

CATHETER CHARACTERISTICS:

15. Type of catheter: Single lumen/ Triple lumen

16. Dressing type: Opaque/ Transparent sterile with gauze/ Transparent sterile without gauze

PART 2: DATA ABSTRACTION FORM (TO BE FILLED AT THE TIME OF CVC REMOVAL)

1. Date of removal of line: __/ __/ ____ 2. Total number of calendar days: ___

2. Final Diagnosis :

AUFI	ACS	Poisoning	Others
Stroke	UTI	Pneumonia	Meningitis

3. Reason for CVC removal :

CVC no longer required	Suspected catheter infection	Patient expired
CVC related mech complication	DAMA/ DAR	CVC in wrong location

4. Local examination of the CVC insertion site

Normal	Redness	Warmth	Pus discharge	tenderness

5. If 4 present , specify date? __/__/____ 5a: number of calendar days prior to site infection: ___

6. Did the patient have fever?

Fever	Y	N	Chills	Y	N	Hypotension	Y	N

7. If 6 present , specify date? __/__/____ 7a: number of calendar days prior to symptoms: ___
8. Dressing: Opaque/ Transparent sterile with gauze/ Transparent sterile without gauze
9. Number of times the dressing | | was changed?
10. Were blood products transfused? Yes/ No
11. Were inotropes used? Yes/No
12. Was the patient on Ventilation? Yes/No; 11a. If yes, Invasive/ non-invasive
13. Was patient on tracheostomy? Yes/No
14. Number of | | MHDU/MICU free days?
15. Signature of PI

Appendix 2:

INFORMED CONSENT FORM

Study title:

COMPARISON OF THE CLINICAL CHARACTERISTICS OF CENTRAL LINES INSERTED IN THE ED AND MEDICAL WARDS AND ICUs

Study pattern: Observational study (Prospective Cohort Study)

Place of Study: Christian Medical College, Vellore

PART I: INFORMATION SHEET

Introduction:

We are doing a study on central line related infections.

A central line is a catheter / tube that is passed through a vein to end up in the heart or in one of the large veins returning blood to the heart.

It is used to administer medicines and fluids in sick patients.

Purpose of the research:

Admission to the hospital is also associated with risk of infection due to the various tube and lines used for various purposes on the patient. These infections are called hospital acquired infections. For example, infections

due to tubes inserted in the veins to give medicines and fluids, tubes inserted to drain urine can become sources for infection. Central lines are one of the important causes of infections that an in-patient may acquire during his stay in the hospital. These hospital-acquired infections increase the cost of treatment and duration of stay of patients and can in some cases even cause death and disability.

This study is being done to compare the rates of infections that arise due to central lines inserted in the ED vs those inserted in the medicine wards and the ICU. This research also will give us information to help identify the factors associated with the ED central lines associated infections.

Type of research intervention:

This is an observational study. Here, we just observe the results that already happening.

Participant selection:

Patients who have a central line inserted in the ED and are admitted to the MICU/MHDU or medical wards will be enrolled in the study. The information received will be compared against those for whom the central lines are inserted in the ICU and the medicine wards.

Procedures and protocol:

We will collect information about you (i.e. age, existing medical conditions, present problems) at the time the line is inserted.

The central line will be inserted by a trained doctor. It is a minor procedure done under local anesthesia. After cleaning the skin with antiseptic solutions, injection will be given to numb the area so that you do not feel any pain.

With the help of a needle, a guidewire will be passed into the vein. After that, the central line will be passed over the guidewire and the guidewire removed.

The central line will be secured with the help of 2 stitches.

We will monitor you for signs of infection (ie., fever, results of blood tests). If signs of infection are present, the tip of the central line will be sent to the laboratory for tests.

This will tell us whether it is infected and the causative organisms.

The results of the test will help us in choosing the medicine to treat you with. This is part of standard treatment followed in the Medical ICU/HDU.

If you don't have fever or other signs of infection when the central line is removed, then the central line tip will still be sent for culture. In this case, the expenses of the test will be covered by a special fund.

In the event of death of the participant, the central line will be removed and sent to the laboratory for the test. In this case, the expense of the test will be covered by a special fund.

Potential Benefits: There may not be any benefit for you but your participation is likely to help us find the answer to the research question which will benefit patients in future.

Voluntary Participation:

Your participation in this study is entirely voluntary.

If you do not wish to participate in the study, you will be offered the treatment that is routinely offered in this hospital for the disease that you have.

You are free to withdraw from the study at any time. This will not affect your treatment in any way.

For any queries kindly contact Dr.Lesley Ponraj, Medicine 4, 09159589815.

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PART II : CONSENT SHEET:

COMPARISON OF THE CLINICAL CHARACTERISTICS OF CENTRAL LINES INSERTED IN THE ED AND MEDICAL WARDS AND ICUs

Study Title:

Study Number:

Subject's Initials: _____ Subject's Name: _____

Date of Birth / Age:_____

Please initial box

(Subject)

(i) I confirm that I have read and understood the information sheet dated _____ for the above study and have had the opportunity to ask questions. [ ]

(ii) I understand that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. [ ]

(iii) I understand that the Sponsor of the clinical trial, others working on the Sponsor's behalf, the Ethics Committee and the regulatory authorities

will not need my permission to look at my health records both in respect of the current study and any further research that may be conducted in relation to it, even if I withdraw from the trial. I agree to this access. However, I understand that my identity will not be revealed in any information released to third parties or published. [ ]

(iv) I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purpose(s) [ ]

(v) I agree to take part in the above study. [ ]

Signature (or Thumb impression) of the Subject/Legally Acceptable Representative:_____

Date: _____/_____/_____

Signatory's Name: _____

Signature (or Thumb impression) of the Investigator: _____

Date: _____/_____/_____

Study Investigator's Name: _____

Signature (or Thumb impression) of the Witness: _____

Date:____/_____/_____

Name of the Witness: _____

For any queries kindly contact Dr. Lesley Ponraj, Medicine 4, 09159589815.

OFFICE OF RESEARCH
INSTITUTIONAL REVIEW BOARD
CHRISTIANMEDICALCOLLEGE,
BAGAYAM, VELLORE 632002, TAMIL NADU, INDIA

Ref: FG/10218/08/2016

January 04, 2017

Mr. Robby Pria Sundersingh
The Treasurer
Christian Medical College,
Vellore.

Dear Mr. Robby Pria Sundersingh,

Sub: **Fluid Research Funding: New Proposal**
Comparison of the clinical factors associated with central line related blood stream infections among the lines inserted in different parts of the hospital, namely the Emergency department and Medical HDU/Medicine Wards.
Dr Lesley Ponraj , (Employment Number: 29465), PG Registrar/Medicine 4, Dr Abhilash K. P. P. , Employment Number: 28585, Dr Priya Emp.No:33596 , Emergency Medicine, Dr John Victor Peter, Emp. No:13328, Intensive and Critical care, Dr Balaji Venkataraghavan Emp. No:30033 Clinical Microbiology, Dr Anand Zachariah , Emp. No: 11791, Internal Medicine Unit 1, Dr Thambu David S Emp. No:30008, Internal Medicine Unit 2, Dr Sudha Jasmine , Emp. No:28296, Internal Medicine Unit 3, Dr Ronald Albert Benton Carey Emp. No:28700, Internal Medicine Unit 4, Dr Ramya I , Emp. No:31571, Internal Medicine Unit 5, Dr Prasanna Samuel , Emp. No:31654, Biostatistics.

Ref: IRB Min. No. 10218 dated 08.08.2016

The Institutional Review Board at its meeting held on August 08 2016 vide IRB Min. No. 10218. Accepted the project for *A sum of 94,000/- INR (Rupees Ninety four thousand Only) will be granted for 2 years. 50,000/- INR (Rupees Fifty Thousand only) will be granted for 12 months as an Ist Installment. The rest of the 44,000/- INR (Rupees Forty Four Thousand only) will be released at the end of the first year as 2 nd Installment following the receipt of the Interim progress/Annual report and subsequent submission of it to the IRB.*

Kindly arrange to transfer the sanctioned amount to a separate account to be operated by Dr Lesley Ponraj (joshanand349@gmail.com) and Dr. George Koshy Chiramel (gkchiramel@gmail.com)

Yours sincerely,

Dr. Biju George.
Secretary (Ethics Committee)
Institutional Review Board, CMC, Vellore.

Dr. BIJU GEORGE
MBBS., MD., DM.
SECRETARY - (ETHICS COMMITTEE)
Institutional Review Board,
Christian Medical College, Vellore - 632 002.

CC: Dr Lesley Ponraj, Department of Medicine -4, CMC, Vellore.

OFFICE OF RESEARCH
INSTITUTIONAL REVIEW BOARD (IRB)
CHRISTIAN MEDICAL COLLEGE, VELLORE, INDIA

Dr. B.J. Prashantham, M.A., M.A., Dr. Min (Clinical)
Director, Christian Counseling Center,
Chairperson, Ethics Committee.

Dr. Anna Benjamin Pulimood, M.B.B.S., MD., Ph.D.,
Chairperson, Research Committee & Principal

Dr. Biju George, M.B.B.S., MD., DM.,
Deputy Chairperson,
Secretary, Ethics Committee, IRB
Additional Vice-Principal (Research)

December 20, 2016

Dr Lesley Ponraj,
PG Registrar,
Department of Medicine,
Christian Medical College,
Vellore 632 004.

Sub: **Fluid Research Funding: New Proposal**
Comparison of the clinical factors associated with central line related blood stream infections among the lines inserted in different parts of the hospital, namely the Emergency department and Medical HDU/Medicine Wards.
Dr Lesley Ponraj , (Employment Number: 29465), PG Registrar/Medicine 4, Dr Abhilash K. P. P. , Employment Number: 28585, Dr Priya Emp.No:33596 , Emergency Medicine, Dr John Victor Peter, Emp. No:13328, Intensive and Critical care, Dr Balaji Venkataraghavan Emp. No:30033 Clinical Microbiology, Dr Anand Zachariah , Emp. No: 11791, Internal Medicine Unit 1, Dr Thambu David S Emp. No:30008, Internal Medicine Unit 2, Dr Sudha Jasmine , Emp. No:28296, Internal Medicine Unit 3, Dr Ronald Albert Benton Carey Emp. No:28700, Internal Medicine Unit 4, Dr Ramya I , Emp. No:31571, Internal Medicine Unit 5, Dr Prasanna Samuel , Emp. No:31654, Biostatistics.

Ref: IRB Min No: 10218 [OBSERVE] dated 08.08.2016

Dear Dr Lesley Ponraj,

I enclose the following documents:-

1. Institutional Review Board approval 2. Agreement

Could you please sign the agreement and send it to Dr. Biju George, Addl. Vice Principal (Research), so that the grant money can be released.

With best wishes,

Dr. Biju George
Secretary (Ethics Committee)
Institutional Review Board

Dr. BIJU GEORGE
MBBS, MD
SECRETARY (ETHICS COMMITTEE)
Institutional Review Board,
Christian Medical College, Vellore

Cc: Dr Abhilash K. P, Dept. of Emergency Medicine, CMC, Vellore

Ethics Committee Blue, Office of Research, 1st Floor, Carman Block, Christian Medical College, Vellore, Tamil Nadu 632 002
Tel: 0416 – 2284294, 2284202 Fax: 0416 – 2262788, 2284481 E-mail: research@cmcvellore.ac.in

OFFICE OF RESEARCH
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CHRISTIAN MEDICAL COLLEGE, VELLORE, INDIA

Dr. B.J. Prashantham, M.A., M.A., Dr. Min (Clinical)
Director, Christian Counseling Center,
Chairperson, Ethics Committee.

Dr. Anna Benjamin Pulimood, M.B.B.S., MD., Ph.D.,
Chairperson, Research Committee & Principal

Dr. Biju George, M.B.B.S., MD., DM.,
Deputy Chairperson,
Secretary, Ethics Committee, IRB
Additional Vice-Principal (Research)

December 20, 2016

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PG Registrar,
Department of Medicine,
Christian Medical College,
Vellore 632 004.

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Comparison of the clinical factors associated with central line related blood stream infections among the lines inserted in different parts of the hospital, namely the Emergency department and Medical HDU/Medicine Wards.
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Ref: IRB Min No: 10218 [OBSERVE] dated 08.08.2016

Dear Dr Lesley Ponraj,

The Institutional Review Board (Blue, Research and Ethics Committee) of the Christian Medical College, Vellore, reviewed and discussed your project titled "Comparison of the clinical factors associated with central line related blood stream infections among the lines inserted in different parts of the hospital, namely the Emergency department and Medical HDU/Medicine Wards" on August 08th 2016.

The Committee reviewed the following documents:

1. IRB Application format
2. Consent Form (English, Tamil, Hinid, Bengali)
3. Information Sheet
4. Clinical Research Form
5. Cvs of Drs. Abhilash, Anand Zachariah, Balaji, Priya Peter, Ramya, Thambu, Lesley, Ronald and Sudha Jasmine.
6. No. of documents 1- 5

Ethics Committee Blue, Office of Research, 1st Floor, Carman Block, Christian Medical College, Vellore, Tamil Nadu 632 002
Tel: 0416 – 2284294, 2284202 Fax: 0416 – 2262788, 2284481 E-mail: research@cmcvellore.ac.in

OFFICE OF RESEARCH
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Dr. B.J. Prashantham, M.A., M.A., Dr. Min (Clinical)
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Chairperson, Research Committee & Principal

Dr. Biju George, M.B.B.S., MD., DM.,
Deputy Chairperson,
Secretary, Ethics Committee, IRB
Additional Vice-Principal (Research)

The following Institutional Review Board (Blue, Research & Ethics Committee) members were present at the meeting held on August 08th 2016 in the CREST/SACN Conference Room, Christian Medical College, Bagayam, Vellore 632002.

Name	Qualification	Designation	Affiliation
Dr. Biju George	MBBS, MD, DM	Professor, Haematology, Research), Additional Vice Principal , Deputy Chairperson (Research Committee), Member Secretary (Ethics Committee), IRB, CMC,Vellore	Internal, Clinician
Dr. B. J. Prashantham	MA(Counseling Psychology), MA (Theology), Dr. Min (Clinical Counselling)	Chairperson, Ethics Committee, IRB. Director, Christian Counseling Centre, Vellore	External, Social Scientist
Dr. Anuradha Rose	MBBS, MD, MHSC (Bioethics)	Associate Professor, Community Health, CMC, Vellore	Internal, Clinician
Dr. Jayaprakash Muliyil	BSc, MBBS, MD, MPH, Dr PH (Epid), DMHC	Retired Professor, Vellore	External, Scientist &Epidemiologist
Rev. Joseph Devaraj	BSc, BD	Chaplaincy Department, CMC, Vellore	Internal, Social Scientist
Mr. C. Sampath	BSc, BL	Advocate, Vellore	External, Legal Expert
Dr. Visalakshi. J	MPH, PhD	Lecturer, Biostatistics, CMC, Vellore	Internal, Statistician
Mrs. Sheela Durai	MSc Nursing	Professor, Medical Surgical Nursing, CMC, Vellore	Internal, Nurse
Ms. Grace Rebekha	M.Sc., (Biostatistics)	Lecturer, Biostatistics, CMC, Vellore	Internal, Statistician
Mrs. Pattabiraman	BSc, DSSA	Social Worker, Vellore	External, Lay Person
Dr. Rajesh Kannangai	MD, PhD.	Professor, Clinical Virology, CMC, Vellore	Internal, Clinician

Ethics Committee Blue, Office of Research, 1st Floor, Carman Block, Christian Medical College, Vellore, Tamil Nadu 632 002
Tel: 0416 – 2284294, 2284202 Fax: 0416 – 2262788, 2284481 E-mail: research@cmcvellore.ac.in

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INSTITUTIONAL REVIEW BOARD (IRB)
CHRISTIAN MEDICAL COLLEGE, VELLORE, INDIA

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Director, Christian Counseling Center,
Chairperson, Ethics Committee.

Dr. Anna Benjamin Pulimood, M.B.B.S., MD., Ph.D.,
Chairperson, Research Committee & Principal

Dr. Biju George, M.B.B.S., MD., DM.,
Deputy Chairperson,
Secretary, Ethics Committee, IRB
Additional Vice-Principal (Research)

Dr. Balamugesh	MBBS, MD(Int Med), DM, FCCP (USA)	Professor, Pulmonary Medicine, CMC, Vellore	Internal, Clinician
Dr. Sneha Varkki	MBBS, DCH, DNB	Professor, Paediatrics, CMC, Vellore	Internal, Clinician
Mrs. Emily Daniel	MSc Nursing	Professor, Medical Surgical Nursing, CMC, Vellore	Internal, Nurse
Dr. Sathish	MBBS, MD, DCH	Professor, Child Health, CMC, Vellore	Internal, Clinician
Dr. Inian Samarasam	MS, FRCS, FRACS	Professor, Surgery, CMC, Vellore	Internal, Clinician
Dr. Mathew Joseph	MBBS, MCH	Professor, Neurosurgery, CMC, Vellore	Internal, Clinician
Dr. Ranjith K Moorthy	MBBS, MCh	Professor, Neurological Sciences, CMC, Vellore	Internal, Clinician

We approve the project to be conducted as presented.

Kindly provide the total number of patients enrolled in your study and the total number of withdrawals for the study entitled: "Comparison of the clinical factors associated with central line related blood stream infections among the lines inserted in different parts of the hospital, namely the Emergency department and Medical HDU/Medicine Wards" on a monthly basis. Please send copies of this to the Research Office (research@cmcvellore.ac.in).

Fluid Grant Allocation:
A sum of 94,000/- INR (Rupees Ninety four thousand Only) will be granted for 2 years. 50,000/- INR (Rupees Fifty Thousand only) will be granted for 12 months as an Ist Installment. The rest of the 44,000/- INR (Rupees Forty four Thousand only) will be released at the end of the first year as 2 nd Installment.

Yours sincerely,

Dr. BIJU GEORGE
MBBS ... DM.
SECRETARY - ETHICS COM...
Institutional Review B...
Christian Medical College, ... - 632 002.

Dr. Biju George
Secretary (Ethics Committee)
Institutional Review Board
IRB Min No: 10218 [OBSERVE] dated 08.08.2016

Ethics Committee Blue, Office of Research, 1st Floor, Carman Block, Christian Medical College, Vellore, Tamil Nadu 632 002
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Appendix 4: Data Sheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	slno	hospno	name	age	sex	dateadm	dateins	indins	diab	htn	ckd	cld	copd	ihd	cva	hiv	siteside	siteplc	abxreciev	dayinhosp	admelsev	durfever	aufi	acs	poison	stroke
2	1	543703g	Laxmipatl	57	1	03/02/2017	03/02/2017	2	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	12	TRUE	FALSE	FALSE	FALSE
3	2	542260g	AjayKuma	29	1	19/01/2017	27/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	20	FALSE	4	TRUE	FALSE	FALSE	FALSE
4	3	545143g	Christoph	57	1	25/02/2017	26/02/2017	2	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	FALSE	1	FALSE	14	FALSE	FALSE	FALSE	FALSE
5	4	546935g	Murugam	49	2	10/03/2017	11/03/2017	2	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
6	5	546894g	Jagadish	74	1	10/03/2017	13/03/2017	1	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	1	1	TRUE	0	TRUE	0	FALSE	FALSE	FALSE	FALSE
7	6	788756g	MeeraDe	50	2	10/02/2017	24/02/2017	2	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	14	FALSE	4	FALSE	FALSE	FALSE	FALSE
8	7	544738g	Mythili	28	2	23/02/2017	23/07/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	3	FALSE	FALSE	FALSE	FALSE
9	8	215379d	Venkatraj	56	1	26/02/2017	26/02/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
10	9	159864d	Manjula	63	2	07/02/2017	27/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	20	FALSE	4	FALSE	FALSE	FALSE	FALSE
11	10	544901g	Ezhilarasi	57	2	15/02/2017	22/06/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	TRUE	7	FALSE	5	FALSE	FALSE	FALSE	FALSE
12	11	545428g	Partheba	37	1	21/02/2017	15/03/2017	1	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	4	TRUE	6	TRUE	FALSE	FALSE	FALSE
13	12	817337g	MstSamsu	62	2	11/03/2017	14/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
14	13	546252g	Prema	61	2	02/03/2017	07/03/2017	1	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	5	FALSE	5	FALSE	FALSE	FALSE	FALSE
15	14	949134d	Fathima	48	2	16/03/2017	16/03/2017	1	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	3	FALSE	FALSE	FALSE	FALSE
16	15	135229	Kasthuri	63	2	17/03/2017	19/03/2017	1	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	FALSE	2	FALSE	0	FALSE	FALSE	FALSE	FALSE
17	16	640131d	Selvamar	42	2	02/03/2017	18/03/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	16	FALSE	15	FALSE	FALSE	FALSE	FALSE
18	17	546286g	Poongudi	32	2	03/03/2017	17/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	14	FALSE	0	FALSE	FALSE	FALSE	FALSE
19	18	547620g	Venkatacl	60	1	18/03/2017	20/03/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	3	TRUE	0	FALSE	FALSE	FALSE	FALSE
20	19	545143g	Christoph	58	1	25/02/2017	16/03/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	2	2	TRUE	19	FALSE	0	FALSE	FALSE	FALSE	FALSE
21	20	546636g	Mary	60	2	07/03/2017	07/03/2017	2	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	2	1	FALSE	0	FALSE	2	FALSE	FALSE	FALSE	FALSE
22	21	547596g	Chandira	58	1	20/03/2017	26/03/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	2	2	TRUE	6	FALSE	0	FALSE	FALSE	FALSE	FALSE
23	22	579961b	Vincentda	18	1	06/02/2017	06/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	30	FALSE	FALSE	FALSE	FALSE
24	23	980553f	Yashoda	56	2	24/03/2017	26/03/2017	2	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	2	FALSE	0	FALSE	FALSE	FALSE	FALSE
25	24	548002g	AneesaBe	29	2	22/03/2017	23/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	2	1	TRUE	0	FALSE	6	FALSE	FALSE	FALSE	FALSE
26	25	546286g	Poongodi	32	2	03/03/2017	22/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	TRUE	18	FALSE	0	FALSE	FALSE	FALSE	FALSE
27	26	015600c	Rajeshwa	36	2	28/03/2017	29/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	1	2	FALSE	1	FALSE	0	FALSE	FALSE	FALSE	FALSE
28	27	548144g	Chandras	40	1	24/03/2017	28/03/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	3	TRUE	FALSE	FALSE	FALSE
29	28	013627g	Ramaling	61	1	28/02/2017	13/03/2017	1	FALSE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	14	FALSE	0	FALSE	FALSE	FALSE	FALSE
30	29	848426b	Nagarajar	39	1	19/04/2017	19/04/2017	1	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	3	FALSE	FALSE	FALSE	FALSE
31	30	557498g	Thilagam	58	2	18/04/2017	18/04/2017	1	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	FALSE	0	FALSE	15	FALSE	FALSE	FALSE	FALSE
32	31	557035g	Srinivasa	51	1	13/04/2017	15/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	1	1	TRUE	1	FALSE	0	FALSE	FALSE	FALSE	FALSE
33	32	526669f	VeenaJes	32	2	29/01/2017	30/01/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	7	FALSE	FALSE	FALSE	FALSE
34	33	526669f	VeenaJes	32	2	29/01/2017	03/02/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	2	1	TRUE	6	FALSE	1	FALSE	FALSE	FALSE	FALSE
35	34	931282f	Dhandapa	43	1	20/02/2017	03/03/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	1	1	TRUE	11	FALSE	0	FALSE	FALSE	FALSE	FALSE
36	35	543762g	Jayasanka	55	1	10/02/2017	13/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	1	1	TRUE	3	TRUE	4	FALSE	FALSE	FALSE	FALSE
37	36	205246	Thomas	74	1	23/02/2017	26/02/2017	2	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	1	FALSE	1	FALSE	FALSE	FALSE	FALSE

	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW
1	uti	mening	pneum	sepsh	carsh	other	admp	admsbp	admdbp	admrr	admspo2	insp	inssbp	insdbp	insrr	insspo2	onetadm	onionadm	onetins	onionins	noatmpt	usgguid	timeins
2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	78	140	80	54	98	75	94	66	25	100	FALSE	FALSE	TRUE	FALSE	1	TRUE	22.3
3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	180	140	100	40	94	115	110	80	20	98	FALSE	FALSE	TRUE	FALSE	2	TRUE	10
4	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	111	120	80	24	90	110	126	84	22	98	FALSE	FALSE	FALSE	FALSE	1	TRUE	12
5	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	86	150	80	20	100	110	110	70	16	100	FALSE	FALSE	FALSE	FALSE	1	FALSE	20
6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	94	130	80	20	97	118	90	60	28	96	FALSE	FALSE	FALSE	FALSE	1	FALSE	2
7	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	90	110	70	28	96	100	120	80	28	96	FALSE	FALSE	FALSE	FALSE	1	FALSE	20
8	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	120	100	80	32	92	110	110	80	24	96	FALSE	FALSE	TRUE	TRUE	1	TRUE	16
9	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	112	180	100	18	50	120	160	100	24	96	TRUE	FALSE	TRUE	FALSE	1	TRUE	18
10	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	112	90	60	30	86	110	130	80	24	98	FALSE	FALSE	TRUE	FALSE	2	TRUE	16
11	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	114	130	80	44	48	118	120	80	28	98	FALSE	FALSE	TRUE	TRUE	2	FALSE	18
12	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	150	130	84	34	90	125	134	90	24	98	FALSE	FALSE	TRUE	FALSE	1	FALSE	12.3
13	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	90	100	80	26	95	96	100	60	24	94	FALSE	FALSE	FALSE	FALSE	4	FALSE	16
14	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	80	150	90	38	94	90	130	80	28	98	FALSE	FALSE	TRUE	FALSE	3	TRUE	13
15	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	112	100	60	32	96	110	90	60	30	94	FALSE	FALSE	FALSE	FALSE	4	FALSE	18
16	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	100	100	60	48	95	134	126	70	26	98	FALSE	FALSE	TRUE	FALSE	1	TRUE	12
17	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	130	150	80	44	95	100	140	80	24	96	FALSE	FALSE	TRUE	TRUE	1	TRUE	8
18	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	110	90	60	40	69	100	110	80	24	96	FALSE	FALSE	TRUE	TRUE	1	TRUE	17
19	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	160	100	60	39	88	114	110	80	24	98	FALSE	FALSE	TRUE	FALSE	2	TRUE	15.3
20	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	130	90	60	32	80	100	110	80	26	92	FALSE	FALSE	TRUE	TRUE	2	TRUE	16
21	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	130	140	90	34	92	130	130	80	34	88	FALSE	FALSE	FALSE	FALSE	2	TRUE	3.45
22	TRUE	FALSE	TRUE	TRUE	FALSE	FALSE	90	80	60	20	97	92	80	60	24	97	FALSE	FALSE	FALSE	FALSE	3	FALSE	10.3
23	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	120	110	80	28	98	112	112	80	24	96	FALSE	FALSE	FALSE	FALSE	1	FALSE	8
24	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	80	120	70	28	95	80	120	74	26	95	FALSE	FALSE	FALSE	FALSE	2	FALSE	14
25	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	136	90	50	38	58	120	100	80	28	98	FALSE	FALSE	TRUE	TRUE	1	FALSE	0
26	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	110	90	60	40	69	100	100	80	28	96	FALSE	FALSE	TRUE	FALSE	1	TRUE	12
27	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	154	100	80	32	98	160	86	60	30	80	FALSE	FALSE	TRUE	TRUE	2	FALSE	23.5
28	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	120	140	80	40	40	130	80	60	28	96	FALSE	FALSE	TRUE	FALSE	1	FALSE	4
29	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	132	70	40	32	90	100	100	80	26	98	FALSE	FALSE	TRUE	TRUE	1	TRUE	15.3
30	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	110	70	40	38	98	118	100	60	30	96	FALSE	FALSE	FALSE	TRUE	1	FALSE	2
31	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	112	140	80	44	90	110	100	60	24	98	FALSE	FALSE	TRUE	TRUE	1	FALSE	23
32	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	114	100	70	26	95	110	102	64	28	96	FALSE	FALSE	FALSE	FALSE	1	FALSE	2
33	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	78	100	80	54	46	80	140	72	30	99	FALSE	FALSE	TRUE	TRUE	2	TRUE	6
34	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	78	100	80	54	46	97	125	83	25	95	FALSE	FALSE	TRUE	TRUE	1	TRUE	19.3
35	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	132	150	90	42	79	100	130	80	26	92	FALSE	FALSE	TRUE	FALSE	1	TRUE	16
36	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	126	70	40	22	98	100	96	80	24	98	FALSE	FALSE	FALSE	TRUE	1	TRUE	8
37	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	117	140	80	24	94	100	140	60	24	98	FALSE	FALSE	FALSE	FALSE	2	TRUE	12

	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA
1	cvcinsby	maxstrlpc	supins	secondins	numins	numinsite	screen	handhyg	cap	facemask	apron	gown	towel	strldrape	strlglove	lumen	dressins	daterem	caldays	aufi1	acs1	poison1	stroke1	uti1	mening1	pneum1
2	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	09/02/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
3	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	04/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
4	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	06/03/2017	9	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
5	2	FALSE	FALSE	FALSE	3	3	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	15/03/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	18/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
7	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	3	3	03/03/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
8	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	01/03/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
9	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	02/02/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
10	2	TRUE	FALSE	FALSE	2	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	01/03/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
11	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	28/02/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
12	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	21/03/2017	8	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
13	2	FALSE	FALSE	FALSE	3	3	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	20/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
14	2	TRUE	FALSE	FALSE	1	1	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	12/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
15	2	FALSE	FALSE	FALSE	3	3	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	24/03/2017	9	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
16	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	24/02/2017	6	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
17	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	23/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
18	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	22/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
19	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	23/03/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
20	2	TRUE	FALSE	FALSE	1	1	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	20/03/2017	4	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
21	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	18/03/2017	10	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE
22	2	FALSE	TRUE	TRUE	1	1	TRUE	0	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	30/03/2017	5	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE
23	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	15/02/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
24	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	0	30/03/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
25	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	29/03/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
26	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	30/03/2017	9	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
27	2	FALSE	FALSE	FALSE	1	1	TRUE	3	FALSE	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	2	1	31/03/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
28	2	TRUE	FALSE	FALSE	2	2	FALSE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	28/03/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
29	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	19/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
30	2	FALSE	FALSE	FALSE	3	3	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	26/04/2017	8	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
31	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	25/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
32	2	FALSE	FALSE	FALSE	1	1	TRUE	1	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	2	3	22/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
33	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	03/02/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
34	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	08/02/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
35	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	06/03/2017	4	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE
36	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	16/02/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
37	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	08/03/2017	11	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE

	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC
1	sepsh1	carsh1	other1	reasonov	normal	redness	warmth	pus	tender	dateofloos	daysprloo	normalsys	ptfever	ptchills	pthypotn	dateofsyss	daysprsys	dressrem	nodressc	bldtrans	ionotrope	vent	typevent	trach	tipcul	org	bldcul	bldculpos
2	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	FALSE	TRUE	TRUE	1	FALSE	FALSE		FALSE	FALSE
3	TRUE	FALSE	TRUE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	01/03/2017	4	1	0	FALSE	FALSE	TRUE	2	TRUE	TRUE	Pseudom	TRUE	TRUE
4	TRUE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	01/03/2017	5	3	3	FALSE	TRUE	TRUE	2	FALSE	TRUE	Candida	TRUE	FALSE
5	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	2	FALSE	FALSE	FALSE		FALSE	FALSE		FALSE	FALSE
6	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
7	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	FALSE	FALSE		FALSE	TRUE	NFGNB	FALSE	FALSE
8	TRUE	FALSE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	01/03/2017	1	3	3	FALSE	TRUE	TRUE	2	FALSE	TRUE	NFGNB	TRUE	TRUE
9	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	FALSE	TRUE	2	FALSE	FALSE		FALSE	FALSE
10	TRUE	FALSE	FALSE	3	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	01/03/2017	1	3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
11	TRUE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	27/02/2017	2	2	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
12	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	FALSE	FALSE	TRUE	2	FALSE	FALSE		FALSE	FALSE
13	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	2	TRUE	FALSE	FALSE		FALSE	FALSE		FALSE	FALSE
14	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
15	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	1	FALSE	TRUE	FALSE		FALSE	TRUE	Enteroco	FALSE	FALSE
16	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	4	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
17	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	20/03/2017	4	3	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
18	TRUE	FALSE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	22/03/2017	1	3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
19	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	FALSE	TRUE	2	FALSE	FALSE		TRUE	FALSE
20	TRUE	FALSE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	20/03/2017	1	3	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
21	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	13/03/2017	5	3	3	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
22	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	FALSE	TRUE	2	FALSE	FALSE		FALSE	FALSE
23	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
24	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	29/03/2017	1	1	0	FALSE	FALSE	FALSE		FALSE	TRUE	CONS	TRUE	FALSE
25	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	2	FALSE	TRUE	TRUE	2	FALSE	TRUE	CONS	TRUE	FALSE
26	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	3	FALSE	TRUE	TRUE	2	TRUE	FALSE		FALSE	FALSE
27	FALSE	TRUE	FALSE	3	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	TRUE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
28	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
29	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	TRUE	TRUE	TRUE	2	FALSE	TRUE	NFGNB	FALSE	FALSE
30	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	26/04/2017	1	3	1	TRUE	TRUE	FALSE		FALSE	FALSE		TRUE	FALSE
31	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	2	FALSE	TRUE	TRUE	2	TRUE	FALSE		FALSE	FALSE
32	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
33	TRUE	FALSE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	TRUE	FALSE	02/02/2017	1	1	2	FALSE	TRUE	TRUE	2	FALSE	TRUE	NFGNB	TRUE	TRUE
34	TRUE	FALSE	FALSE	3	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	06/04/2017	3	2	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
35	TRUE	TRUE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	06/03/2017	1	3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
36	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	FALSE	TRUE	TRUE	0	FALSE	FALSE		FALSE	FALSE
37	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	2	FALSE	FALSE	FALSE		FALSE	FALSE		FALSE	FALSE

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
38	37	558446g	Dhanasre	20	2	29/04/2017	29/04/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	TRUE	FALSE
39	38	548787g	MadhanB	55	1	04/04/2017	21/04/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	1	1	TRUE	17	TRUE	0	FALSE	FALSE	FALSE	FALSE
40	39	818397f	Dhanalak	37	2	15/04/2017	19/04/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
41	40	064775d	Jaganathi	42	1	16/04/2017	20/04/2017	1	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	1	1	FALSE	4	FALSE	0	FALSE	FALSE	FALSE	FALSE
42	41	558524g	RaniK	42	2	30/04/2017	30/04/2017	2	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
43	42	549891g	ThaiyaIna	59	2	11/04/2017	23/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	12	FALSE	0	FALSE	FALSE	FALSE	FALSE
44	43	557267g	MadanMa	56	1	26/04/2017	08/05/2017	1	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	1	1	TRUE	11	TRUE	30	FALSE	FALSE	FALSE	FALSE
45	44	705083g	RameshKi	30	1	29/04/2017	29/04/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	TRUE	0	FALSE	FALSE	FALSE	FALSE
46	45	558845g	Mahalingi	49	1	03/05/2017	06/05/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	TRUE	FALSE
47	46	940462f	Kavitha	22	2	06/02/2017	06/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	4	TRUE	FALSE	FALSE	FALSE
48	47	543762g	Jayasanki	55	1	09/02/2017	10/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	1	2	FALSE	0	TRUE	1	FALSE	FALSE	FALSE	FALSE
49	48	545886g	MithuHali	40	2	01/03/2017	01/03/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	60	FALSE	FALSE	FALSE	FALSE
50	49	397158d	Valarmati	45	2	03/02/2017	03/02/2017	1	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
51	50	545118g	Epsi	44	2	18/02/2017	18/02/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	0	FALSE	7	TRUE	FALSE	FALSE	FALSE
52	51	545837g	Manikann	55	2	26/02/2017	26/02/2017	1	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	5	FALSE	FALSE	FALSE	FALSE
53	52	545534g	Rnaganat	68	1	22/02/2017	22/02/2017	1	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	0	TRUE	11	FALSE	FALSE	FALSE	FALSE
54	53	558756g	BavaniMa	53	2	02/05/2017	02/05/2017	2	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	0	FALSE	3	FALSE	FALSE	FALSE	FALSE
55	54	558599g	ProdipCh	41	1	01/05/2017	01/05/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
56	55	966044d	SornamD	68	2	06/05/2017	06/05/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
57	56	549769g	NagalaksI	22	2	10/07/2017	11/07/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	30	FALSE	FALSE	FALSE	FALSE
58	57	549059g	Dhanalak	32	2	03/04/2017	15/04/2017	1	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	TRUE	12	FALSE	0	FALSE	TRUE	FALSE	FALSE
59	58	558415g	JayaK	35	2	28/04/2017	04/05/2017	2	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	6	FALSE	0	FALSE	FALSE	FALSE	FALSE
60	59	558472g	Rajasekha	47	1	29/04/2017	30/04/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	FALSE	1	FALSE	0	FALSE	FALSE	FALSE	TRUE
61	60	655692g	MustafaK	55	2	11/04/2017	12/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	1	FALSE	0	FALSE	FALSE	FALSE	FALSE
62	61	862761g	MstNajm	36	2	25/04/2017	26/04/2017	1	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
63	62	098048f	Malarven	53	2	24/04/2017	24/04/2017	1	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	FALSE	0	FALSE	0	FALSE	FALSE	TRUE	FALSE
64	63	903103c	Selvi	47	2	02/03/2017	02/03/2017	1	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	1	FALSE	FALSE	FALSE	FALSE
65	64	013627g	Ramalingi	61	1	28/02/2017	28/02/2017	1	FALSE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	TRUE	0	FALSE	FALSE	FALSE	FALSE
66	65	135229	Kasthuri	63	2	17/03/2017	17/03/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	TRUE	FALSE	FALSE
67	66	547620g	Venkatacl	60	1	18/03/2017	18/03/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
68	67	546957g	Theresa	64	2	26/03/2017	26/03/2017	1	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
69	68	547948g	Mani	56	1	22/03/2017	22/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	5	FALSE	FALSE	FALSE	FALSE
70	69	800027g	Vasantha	62	2	24/03/2017	24/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	2	2	FALSE	0	FALSE	1	FALSE	FALSE	FALSE	FALSE
71	70	548061g	Muralishv	62	1	26/03/2017	26/03/2017	1	TRUE	TRUE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	15	FALSE	FALSE	FALSE	FALSE
72	71	548166g	Kaushalal	59	1	24/03/2017	24/03/2017	1	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	1	FALSE	FALSE	FALSE	FALSE
73	72	051399g	Raniamm	58	2	27/03/2017	27/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	TRUE	FALSE	FALSE
74	73	723306c	Ravichanc	45	1	19/03/2017	19/03/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE

	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
38	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	68	120	70	22	100	80	120	80	20	100	FALSE	FALSE	FALSE	FALSE	1	FALSE	23	29/04/2017	3	
39	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	106	100	60	20	96	130	120	80	26	98	FALSE	FALSE	FALSE	FALSE	1	FALSE	23	21/04/2017	3	
40	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	138	130	80	24	98	126	100	80	30	96	FALSE	FALSE	FALSE	FALSE	1	FALSE	12	19/04/2017	2	
41	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	100	100	60	40	96	130	90	60	30	98	FALSE	FALSE	TRUE	TRUE	2	FALSE	17	20/04/2017	3	
42	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	90	80	60	34	95	110	100	80	24	98	FALSE	FALSE	FALSE	FALSE	2	FALSE	8	30/04/2017	2	
43	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	120	90	60	26	92	130	88	60	28	94	FALSE	FALSE	FALSE	FALSE	1	FALSE	10	22/04/2017	2	
44	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	92	100	70	22	95	98	110	80	24	95	FALSE	FALSE	TRUE	TRUE	1	TRUE	23	08/05/2017	3	
45	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	126	90	60	24	97	110	98	60	24	97	FALSE	FALSE	FALSE	FALSE	1	TRUE	22	02/05/2017	2	
46	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	110	190	110	34	94	110	130	70	30	94	FALSE	FALSE	TRUE	FALSE	1	TRUE	8	06/05/2017	3	
47	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	156	60	40	26	88	112	140	70	30	94	FALSE	FALSE	FALSE	TRUE	3	TRUE	5	06/02/2017	1	1
48	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	126	70	40	22	98	84	80	60	20	96	FALSE	FALSE	FALSE	TRUE	3	FALSE	20.3	09/02/2017	1	1
49	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	120	80	60	20	94	110	80	60	24	94	FALSE	FALSE	FALSE	TRUE	2	FALSE	5	01/03/2017	1	1
50	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	80	60	40	28	98	78	60	40	28	98	FALSE	FALSE	FALSE	TRUE	2	TRUE	19	03/02/2017	1	1
51	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	120	80	60	40	80	110	90	60	36	92	FALSE	FALSE	TRUE	TRUE	2	FALSE	19.3	18/02/2017	1	1
52	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	112	80	50	42	80	106	120	80	36	92	FALSE	FALSE	FALSE	TRUE	3	FALSE	5	25/02/2017	1	1
53	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	110	70	40	20	98	110	72	40	18	97	FALSE	FALSE	FALSE	TRUE	2	FALSE	21.3	22/02/2017	1	1
54	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	90	100	70	30	89	94	90	60	26	97	FALSE	FALSE	FALSE	FALSE	2	FALSE	3	02/05/2017	1	1
55	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	168	90	60	34	96	180	70	40	32	94	FALSE	FALSE	FALSE	TRUE	1	FALSE	2	01/05/2017	1	1
56	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	98	50	30	26	96	98	70	40	28	96	FALSE	FALSE	FALSE	TRUE	1	FALSE	0	06/05/2017	1	1
57	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	130	100	80	22	85	100	100	80	22	94	FALSE	FALSE	FALSE	TRUE	1	FALSE	23	11/07/2017	3	
58	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	130	74	60	30	95	120	80	60	30	94	FALSE	FALSE	FALSE	TRUE	1	FALSE	22	15/04/2017	2	
59	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	114	280	200	22	98	76	160	90	16	98	FALSE	FALSE	FALSE	FALSE	2	FALSE	10	04/04/2017	2	
60	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	108	160	60	24	92	100	130	80	24	98	FALSE	FALSE	FALSE	FALSE	1	FALSE	7.3	30/04/2017	3	
61	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	106	40	30	32	90	110	70	50	34	94	FALSE	FALSE	FALSE	TRUE	1	TRUE	22	12/04/2017	3	
62	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	124	60	30	18	98	120	80	40	24	96	FALSE	FALSE	FALSE	TRUE	2	FALSE	6	25/04/2017	1	1
63	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	118	60	30	10	60	117	70	30	26	100	FALSE	FALSE	TRUE	TRUE	1	FALSE	16.3	24/04/2017	1	1
64	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	128	80	60	34	91	112	90	60	30	91	FALSE	FALSE	FALSE	FALSE	2	FALSE	14	02/03/2017	1	1
65	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	132	70	40	32	90	112	60	40	36	92	FALSE	FALSE	FALSE	TRUE	2	FALSE	5	28/02/2017	1	1
66	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	100	100	60	48	95	130	80	60	46	95	FALSE	FALSE	FALSE	TRUE	2	FALSE	18.3	17/03/2017	1	1
67	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	160	100	60	39	88	130	100	80	28	98	FALSE	FALSE	TRUE	TRUE	2	FALSE	10	18/03/2017	1	1
68	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	130	70	40	40	84	120	60	30	28	84	FALSE	FALSE	TRUE	TRUE	2	FALSE	13.15	26/03/2017	1	1
69	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	100	80	40	30	94	100	90	60	30	94	FALSE	FALSE	FALSE	TRUE	2	FALSE	3.3	22/03/2017	1	1
70	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	124	90	60	26	96	110	70	40	28	96	FALSE	FALSE	FALSE	TRUE	2	FALSE	6	24/03/2017	1	1
71	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	100	120	80	36	95	110	70	50	32	95	FALSE	FALSE	FALSE	TRUE	1	FALSE	12.3	26/03/2017	1	1
72	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	133	80	50	40	90	120	80	60	40	92	FALSE	FALSE	FALSE	TRUE	1	FALSE	10	24/03/2017	1	1
73	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	198	70	40	24	90	120	60	40	26	94	FALSE	FALSE	FALSE	TRUE	3	FALSE	11.45	27/03/2017	1	1
74	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	144	90	60	36	94	140	80	40	24	94	FALSE	FALSE	FALSE	TRUE	2	FALSE	18	19/03/2017	1	1

	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
38		2	TRUE	FALSE	FALSE	2	2	FALSE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	03/05/2017	5	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
39		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	26/04/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
40		2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	26/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
41		2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	27/04/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
42		2	FALSE	FALSE	FALSE	1	1	FALSE	1	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	2	2	04/05/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
43		2	FALSE	FALSE	FALSE	1	1	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	27/04/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
44		2	FALSE	FALSE	FALSE	2	2	FALSE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	17/05/2017	9	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
45		2	FALSE	TRUE	TRUE	1	1	FALSE	1	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	2	1	13/05/2017	14	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
46		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	13/05/2017	8	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
47	1	2	FALSE	TRUE	TRUE	1	1	FALSE	0	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	2	1	09/02/2017	3	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
48	2	2	TRUE	TRUE	TRUE	1	1	FALSE	3	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	13/02/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
49	2	2	FALSE	TRUE	FALSE	2	2	FALSE	3	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	03/03/2017	3	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
50	4	2	FALSE	FALSE	FALSE	3	3	FALSE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	06/02/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
51	2	2	TRUE	TRUE	TRUE	1	1	FALSE	3	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	22/02/2017	4	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE
52	2	3	FALSE	FALSE	TRUE	1	1	FALSE	3	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	02/03/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
53	2	2	TRUE	TRUE	TRUE	1	1	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	25/02/2017	3	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
54	3	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	05/05/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
55	3	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	3	1	03/05/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
56	3	2	TRUE	FALSE	FALSE	2	2	FALSE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	09/05/2017	4	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
57		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	17/07/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
58		2	FALSE	FALSE	FALSE	1	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	2	3	19/04/2017	4	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
59		2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	06/04/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
60		2	TRUE	FALSE	FALSE	2	1	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	06/05/2017	7	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
61		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	17/04/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
62	2	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	28/04/2017	3	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
63	2	2	TRUE	FALSE	FALSE	2	2	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	26/04/2017	3	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
64	3	2	TRUE	FALSE	FALSE	2	2	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	05/03/2017	2	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
65	2	2	FALSE	FALSE	TRUE	2	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	08/03/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
66	2	2	FALSE	FALSE	FALSE	1	1	TRUE	3	FALSE	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	2	3	19/03/2017	2	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
67	3	2	FALSE	TRUE	TRUE	1	1	TRUE	1	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	2	1	20/03/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
68	3	2	FALSE	FALSE	FALSE	1	1	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	28/03/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
69	3	2	FALSE	TRUE	TRUE	1	1	TRUE	0	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	27/03/2017	5	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
70	3	2	FALSE	TRUE	FALSE	2	2	TRUE	3	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	28/03/2017	5	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
71	3	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	2	1	28/03/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
72	1	2	FALSE	TRUE	TRUE	2	2	FALSE	0	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	28/04/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
73	4	2	FALSE	TRUE	TRUE	1	1	FALSE	1	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	2	3	02/04/2017	7	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
74	2	2	TRUE	TRUE	FALSE	1	1	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	30/03/2017	12	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE

	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC
38	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	TRUE	TRUE	2	FALSE	TRUE	AHStrep	FALSE	FALSE
39	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			0	1	FALSE	FALSE	TRUE	2	TRUE	FALSE		FALSE	FALSE
40	TRUE	TRUE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	TRUE	1	FALSE	FALSE		FALSE	FALSE
41	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	TRUE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
42	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			2	0	FALSE	FALSE	FALSE		FALSE	FALSE		FALSE	FALSE
43	FALSE	TRUE	FALSE	5	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	TRUE	TRUE	2	FALSE	TRUE	GPC	FALSE	FALSE
44	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	4	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
45	FALSE	FALSE	TRUE	1	FALSE	FALSE	FALSE	FALSE	TRUE	11/05/2017	2	TRUE	FALSE	FALSE	FALSE			1	1	FALSE	FALSE	FALSE		FALSE	TRUE	CONS	FALSE	FALSE
46	TRUE	FALSE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	12/05/2017	1	3	3	FALSE	TRUE	TRUE	2	TRUE	FALSE		TRUE	FALSE
47	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	1	TRUE	TRUE	FALSE		FALSE	FALSE		FALSE	FALSE
48	TRUE	FALSE	FALSE	6	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	TRUE	FALSE	12/02/2017	1	1	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
49	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	FALSE		FALSE	FALSE		FALSE	FALSE
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52	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	02/03/2017	1	1	2	FALSE	TRUE	FALSE		FALSE	FALSE		FALSE	FALSE
53	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	FALSE	0	FALSE	FALSE		FALSE	FALSE
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57	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	3	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
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59	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	FALSE	TRUE	2	TRUE	FALSE		FALSE	FALSE
60	TRUE	FALSE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	05/05/2017	1	3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
61	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
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65	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
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67	FALSE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
68	FALSE	TRUE	FALSE	1	FALSE	FALSE	FALSE	FALSE	TRUE	28/03/2017	1	TRUE	FALSE	FALSE	FALSE			1	0	TRUE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
69	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	1	FALSE	TRUE	FALSE		FALSE	FALSE		FALSE	FALSE
70	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	FALSE		FALSE	FALSE		FALSE	FALSE
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72	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	1	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
73	TRUE	TRUE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	1	FALSE	TRUE	FALSE		FALSE	FALSE		FALSE	FALSE
74	FALSE	TRUE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			0	30	TRUE	FALSE	FALSE		FALSE	TRUE	CONS	FALSE	FALSE

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
75	74	548386g	Padmini	60	2	26/03/2017	26/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	1	TRUE	0	FALSE	FALSE	TRUE	FALSE
76	75	549843g	Bharti	22	2	11/04/2017	11/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	1	FALSE	FALSE	FALSE	FALSE
77	76	921081d	Kummara	58	2	03/04/2017	03/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	1	FALSE	FALSE	FALSE	FALSE
78	77	824299g	DilAfrose	34	2	31/03/2017	01/04/2017	1	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	15	FALSE	FALSE	FALSE	FALSE
79	78	545143g	Christoph	58	1	25/02/2017	20/03/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	23	FALSE	0	FALSE	FALSE	FALSE	FALSE
80	79	548260g	ShahinHa	26	2	25/03/2017	30/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	2	1	TRUE	5	TRUE	30	FALSE	FALSE	FALSE	FALSE
81	80	549059g	Dhanalak	33	2	03/04/2017	18/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	15	FALSE	0	FALSE	FALSE	FALSE	FALSE
82	81	603808c	Premalatl	32	2	20/04/2017	22/04/2017	1	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	7	FALSE	FALSE	FALSE	FALSE
83	82	548779g	Salammal	75	2	31/03/2017	01/04/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	0	FALSE	2	FALSE	FALSE	FALSE	FALSE
84	83	548144g	Chandras	40	1	24/03/2017	30/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	6	FALSE	5	TRUE	FALSE	FALSE	FALSE
85	84	876497f	MdAsiflah	50	1	03/04/2017	03/04/2017	1	TRUE	TRUE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
86	85	558601g	Vijayan	60	1	01/05/2017	04/05/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	4	FALSE	0	FALSE	FALSE	FALSE	FALSE
87	86	548845g	Afrin	24	2	01/04/2017	01/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	0	FALSE	15	FALSE	FALSE	FALSE	FALSE
88	87	548519g	Haneef	40	1	28/03/2017	29/03/2017	2	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	0	FALSE	3	TRUE	FALSE	FALSE	FALSE
89	88	558293g	Ramulu	26	1	27/04/2017	24/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
90	89	404901b	Yuvakuma	66	1	28/03/2017	28/03/2017	1	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	TRUE	0	FALSE	FALSE	FALSE	FALSE
91	90	558117g	Rajasekha	30	2	25/04/2017	25/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	3	TRUE	FALSE	FALSE	FALSE
92	91	506948g	Parvathy	61	2	14/04/2017	15/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	1	TRUE	2	FALSE	7	FALSE	FALSE	FALSE	FALSE
93	92	089462f	Mythili	60	2	24/04/2017	24/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	1	TRUE	FALSE	FALSE	FALSE
94	93	548304g	Rudramar	64	1	09/04/2017	09/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	TRUE	FALSE	FALSE
95	94	557425g	Bhaskar	60	1	18/04/2017	18/04/2017	1	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	7	FALSE	FALSE	FALSE	FALSE
96	95	557239g	Eirrhiah	57	1	15/07/2017	15/07/2017	2	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
97	96	940462f	Kavitha	23	2	06/02/2017	06/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
98	97	506949g	Parvathy	61	2	13/04/2017	13/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	0	FALSE	7	FALSE	FALSE	FALSE	FALSE
99	98	549611g	SenthilKu	29	2	09/04/2017	09/04/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	1	2	TRUE	0	TRUE	0	FALSE	FALSE	FALSE	FALSE
100	99	921081d	KumaraG	58	2	03/04/2017	03/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	TRUE	FALSE
101	100	548545g	Lathif	40	1	29/03/2017	29/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	0	TRUE	6	FALSE	FALSE	FALSE	FALSE
102	101	548927g	PazhaniAr	44	2	01/04/2017	03/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	1	FALSE	7	FALSE	FALSE	FALSE	FALSE
103	102	057103g	Jaganatha	42	1	04/04/2017	05/04/2017	1	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	TRUE	FALSE	2	2	TRUE	1	FALSE	5	FALSE	FALSE	FALSE	FALSE
104	103	548144g	Chandras	40	1	31/03/2017	06/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	7	FALSE	4	FALSE	FALSE	FALSE	FALSE
105	104	548723g	AsitMond	50	1	04/04/2017	04/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
106	105	334991g	Lokeshwa	41	1	30/03/2017	01/04/2017	2	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	1	3	TRUE	1	FALSE	0	FALSE	FALSE	FALSE	FALSE
107	106	973619f	Parvathy	64	2	04/04/2017	10/04/2017	2	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	TRUE	6	FALSE	7	TRUE	FALSE	FALSE	FALSE
108	107	256980c	AjitKrDan	66	1	08/04/2017	10/04/2017	1	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	1	1	FALSE	2	FALSE	0	FALSE	FALSE	FALSE	FALSE
109	108	544147g	Venkatesi	65	1	08/02/2017	08/02/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	TRUE	FALSE
110	109	548512g	Malligha	52	2	28/03/2017	28/03/2017	1	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	FALSE	0	FALSE	10	FALSE	FALSE	FALSE	FALSE
111	110	546286g	Poongodi	33	2	05/03/2017	30/03/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	TRUE	25	TRUE	6	FALSE	FALSE	FALSE	FALSE

	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
75	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	120	70	40	28	96	110	66	40	28	96	TRUE	FALSE	TRUE	TRUE	1	FALSE	15.55	26/03/2017	1	1
76	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	146	80	60	40	90	76	90	50	34	100	FALSE	FALSE	FALSE	TRUE	1	FALSE	20	11/04/2017	1	1
77	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	162	120	80	10	85	120	60	30	28	96	FALSE	FALSE	TRUE	TRUE	1	FALSE	21.45	03/04/2017	1	1
78	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	106	80	50	24	98	110	80	50	26	96	FALSE	TRUE	FALSE	TRUE	2	FALSE	2	01/04/2017	1	1
79	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	130	90	60	32	80	72	124	59	28	98	FALSE	FALSE	TRUE	TRUE	1	TRUE	21.3	20/03/2017	3	
80	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	130	90	60	30	94	126	84	60	28	94	FALSE	FALSE	FALSE	TRUE	1	FALSE	14	30/03/2017	3	
81	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	130	74	60	26	94	110	120	80	26	98	FALSE	FALSE	TRUE	TRUE	1	TRUE	22	18/04/2017	3	
82	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	128	90	60	30	74	120	100	80	28	96	FALSE	FALSE	TRUE	TRUE	1	TRUE	7.05	22/04/2017	3	
83	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	120	100	60	28	98	90	120	70	22	98	FALSE	FALSE	FALSE	FALSE	1	FALSE	21	01/04/2017	2	
84	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	102	160	90	10	70	100	130	80	24	98	FALSE	FALSE	TRUE	FALSE	1	TRUE	9	30/03/2017	3	
85	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	86	140	80	36	38	90	120	80	28	98	FALSE	FALSE	TRUE	FALSE	1	FALSE	8	04/04/2017	3	
86	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	142	160	100	36	66	112	140	100	24	94	FALSE	FALSE	TRUE	FALSE	2	FALSE	23	04/05/2017	3	
87	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	80	120	70	18	98	100	120	80	24	98	FALSE	FALSE	FALSE	FALSE	2	FALSE	19.45	01/04/2017	2	
88	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	140	130	80	44	60	110	130	80	28	94	FALSE	FALSE	TRUE	FALSE	1	TRUE	6	29/03/2017	3	
89	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	116	100	60	44	98	100	100	60	38	94	FALSE	FALSE	FALSE	TRUE	2	FALSE	18	27/04/2017	1	1
90	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	98	80	60	44	80	110	80	60	28	94	FALSE	FALSE	FALSE	TRUE	1	FALSE	14.45	28/03/2017	1	1
91	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	142	70	40	32	96	130	70	50	30	90	FALSE	FALSE	FALSE	TRUE	2	FALSE	1.25	25/04/2017	1	1
92	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	98	74	50	34	90	74	70	40	34	94	FALSE	FALSE	TRUE	TRUE	1	TRUE	23	15/04/2017	3	
93	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	156	84	60	32	94	120	90	72	26	94	FALSE	FALSE	TRUE	TRUE	1	FALSE	5	24/04/2017	1	1
94	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	132	60	30	34	88	110	90	60	32	96	FALSE	FALSE	FALSE	TRUE	1	FALSE	4	09/04/2017	1	1
95	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	115	100	60	42	85	100	90	60	32	94	FALSE	FALSE	FALSE	TRUE	1	FALSE	10	18/04/2017	1	1
96	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	74	140	100	35	98	90	148	96	30	96	FALSE	FALSE	TRUE	FALSE	2	FALSE	11	15/04/2017	1	1
97	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	156	60	40	26	95	120	96	60	26	96	FALSE	FALSE	FALSE	TRUE	2	FALSE	5	06/02/2017	1	1
98	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	90	60	40	14	60	68	70	40	28	100	FALSE	FALSE	TRUE	TRUE	1	FALSE	21.55	13/04/2017	1	1
99	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	132	60	40	42	85	112	90	54	30	96	FALSE	FALSE	FALSE	TRUE	1	FALSE	12.3	09/04/2017	1	1
100	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	102	120	80	24	85	118	140	70	28	96	FALSE	FALSE	FALSE	TRUE	1	FALSE	21.45	03/04/2017	1	1
101	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	115	90	60	32	58	100	124	80	28	96	FALSE	FALSE	TRUE	TRUE	2	TRUE	9.3	29/03/2017	3	
102	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	88	130	80	40	68	94	126	80	28	96	FALSE	FALSE	TRUE	FALSE	2	TRUE	1	03/04/2017	3	
103	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	80	100	80	18	96	110	92	60	20	95	FALSE	FALSE	FALSE	TRUE	2	TRUE	22	05/04/2017	2	
104	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	119	140	90	40	68	110	120	86	28	94	FALSE	FALSE	TRUE	TRUE	2	FALSE	12.15	06/04/2017	2	
105	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	116	110	70	28	98	106	130	80	24	98	FALSE	FALSE	FALSE	FALSE	2	FALSE	18	04/04/2017	2	
106	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	98	130	80	20	96	96	120	80	24	98	FALSE	FALSE	FALSE	FALSE	1	FALSE	11	01/04/2017	2	
107	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	84	160	80	18	95	92	130	80	24	94	FALSE	FALSE	FALSE	FALSE	1	FALSE	6	08/03/2017	3	
108	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	134	100	60	33	96	120	108	64	26	94	FALSE	FALSE	TRUE	TRUE	1	TRUE	6	10/04/2017	3	
109	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	99	120	80	24	98	110	100	80	26	96	FALSE	FALSE	TRUE	FALSE	1	TRUE	14	08/02/2017	3	
110	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	100	100	70	24	100	100	110	80	26	96	FALSE	FALSE	FALSE	TRUE	1	TRUE	22	28/03/2017	3	
111	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	110	90	60	40	69	110	96	64	26	90	FALSE	FALSE	TRUE	TRUE	1	TRUE	8	30/03/2017	3	

	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
75	2	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	2	1	28/03/2017	3	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
76	3	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	14/03/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
77	3	2	FALSE	FALSE	FALSE	2	2	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	05/03/2017	2	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
78	3	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	05/04/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
79		2	TRUE	FALSE	FALSE	1	1	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	26/03/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
80		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	08/04/2017	10	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
81		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	29/04/2017	12	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
82		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	29/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
83		2	FALSE	FALSE	FALSE	1	1	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	03/04/2017	2	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
84		2	FALSE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	05/04/2017	7	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
85		2	TRUE	FALSE	FALSE	2	2	FALSE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	07/04/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
86		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	05/05/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
87		2	FALSE	FALSE	FALSE	3	3	FALSE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	07/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
88		2	TRUE	FALSE	FALSE	1	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	04/03/2017	8	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
89	3	2	TRUE	FALSE	FALSE	0	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	03/05/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
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91	2	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	29/04/2017	5	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
92		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	18/04/2017	0	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
93	3	2	TRUE	FALSE	FALSE	2	2	FALSE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	26/04/2017	3	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
94	3	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	21/04/2017	14	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE
95	2	2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	22/04/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
96	2	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	18/04/2017	4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
97	2	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	15/04/2017	9	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
98	1	2	FALSE	FALSE	FALSE	3	3	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	17/04/2017	5	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
99	2	2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	10/04/2017	2	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
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101		2	TRUE	FALSE	FALSE	1	1	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	07/04/2017	10	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
102		2	TRUE	TRUE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	10/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
103		3	FALSE	TRUE	TRUE	1	1	TRUE	3	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	10/04/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
104		2	FALSE	FALSE	FALSE	1	1	TRUE	1	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	2	3	10/04/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
105		2	TRUE	FALSE	FALSE	3	3	TRUE	1	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	2	3	13/04/2017	10	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
106		2	FALSE	FALSE	FALSE	3	3	TRUE	1	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	09/03/2017	9	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
107		2	FALSE	TRUE	TRUE	1	1	TRUE	3	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	1	2	15/04/2017	6	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
108		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	15/04/2017	6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
109		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	15/02/2017	8	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
110		2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	03/04/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
111		2	FALSE	FALSE	FALSE	2	2	TRUE	1	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	06/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE

	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC
75	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
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78	TRUE	FALSE	TRUE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	FALSE		FALSE	TRUE	MSSA	TRUE	TRUE
79	TRUE	TRUE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
80	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	07/04/2017	1	3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
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90	FALSE	TRUE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	03/04/2017	1	1	1	FALSE	TRUE	TRUE	2	FALSE	TRUE	Candida	TRUE	FALSE
91	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	0	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
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93	TRUE	FALSE	FALSE	2	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	TRUE	FALSE	FALSE	25/04/2017	1	1	0	FALSE	TRUE	TRUE	2	FALSE	FALSE		TRUE	FALSE
94	TRUE	FALSE	FALSE	3	TRUE	FALSE	FALSE	FALSE	FALSE			FALSE	TRUE	FALSE	FALSE	18/04/2017	1	1	4	FALSE	TRUE	FALSE		FALSE	TRUE	Kleb/Enr	TRUE	FALSE
95	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
96	FALSE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			1	0	FALSE	FALSE	TRUE	1	FALSE	FALSE		FALSE	FALSE
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98	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	2	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE
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111	TRUE	FALSE	FALSE	1	TRUE	FALSE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE			3	3	FALSE	TRUE	TRUE	2	FALSE	FALSE		FALSE	FALSE

112	111	547369g	Pachappa	72	2	16/03/2017	25/03/2017	2	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	1	TRUE	9	FALSE	0	FALSE	FALSE	FALSE	FALSE
113	112	603808c	Premalatl	32	2	20/04/2017	04/05/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	2	1	TRUE	14	TRUE	4	FALSE	FALSE	FALSE	FALSE
114	113	557453g	Deepa	30	2	18/04/2017	28/04/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	10	FALSE	0	FALSE	FALSE	FALSE	FALSE
115	114	777976c	Mani	60	1	18/04/2017	18/04/2017	2	TRUE	TRUE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	1	1	FALSE	0	FALSE	1	FALSE	TRUE	FALSE	FALSE
116	115	856574c	Govindam	70	2	24/04/2017	30/04/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	7	FALSE	0	FALSE	FALSE	FALSE	FALSE
117	116	559335g	Ragavelu	75	1	09/05/2017	10/05/2017	2	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
118	117	721065b	DebjaniBl	35	2	02/05/2017	07/05/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	FALSE	5	TRUE	0	FALSE	FALSE	FALSE	TRUE
119	118	559473g	LizzyMari	67	1	10/05/2017	10/05/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	TRUE	1	FALSE	FALSE	FALSE	FALSE
120	119	549190g	Sajibmajh	28	2	13/04/2017	24/04/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	TRUE	9	TRUE	14	FALSE	FALSE	FALSE	FALSE
121	120	549891g	Thayalnay	59	2	12/04/2017	12/04/2017	1	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	1	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
122	121	561772g	Sambasiv	30	2	24/05/2017	24/05/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	TRUE	FALSE
123	122	443582c	FulaDevi	57	2	25/03/2017	25/03/2017	3	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	1	2	FALSE	0	FALSE	0	FALSE	FALSE	FALSE	FALSE
124	123	548455g	KishoreBa	61	1	27/03/2017	27/03/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	TRUE	3	FALSE	FALSE	FALSE	FALSE
125	124	549611g	Senthilkr	29	1	09/04/2017	10/04/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	2	1	TRUE	1	TRUE	2	FALSE	FALSE	FALSE	FALSE
126	125	559473g	LizzyMari	66	2	10/07/2017	10/07/2017	1	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	1	FALSE	FALSE	FALSE	FALSE
127	126	559074g	Krishnam	45	1	06/05/2017	06/05/2017	1	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	20	FALSE	FALSE	FALSE	FALSE
128	127	558829g	Sathiyam	65	1	04/05/2017	04/05/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	2	FALSE	FALSE	FALSE	FALSE
129	128	557635g	Devendra	55	1	21/04/2017	26/04/2017	3	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	1	TRUE	5	TRUE	30	FALSE	FALSE	FALSE	FALSE
130	129	246810f	Mehboon	71	2	14/04/2017	18/04/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	3	FALSE	2	FALSE	FALSE	FALSE	FALSE
131	130	860075g	SKAjmir	28	1	02/05/2017	02/05/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	1	TRUE	0	FALSE	21	FALSE	FALSE	FALSE	FALSE
132	131	547668g	Subramar	67	1	19/03/2017	27/03/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	TRUE	8	FALSE	0	FALSE	FALSE	FALSE	TRUE
133	132	548792g	Asit	50	1	31/03/2017	19/04/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	3	TRUE	20	FALSE	0	FALSE	FALSE	FALSE	FALSE
134	133	933676g	Parvathy	55	2	18/08/2017	18/08/2017	1	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	0	TRUE	7	FALSE	FALSE	FALSE	FALSE
135	134	973909f	Iyyappan	55	1	15/08/2017	15/08/2017	1	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	1	2	FALSE	0	FALSE	1	FALSE	TRUE	FALSE	FALSE
136	135	561620g	Kalirathin	56	1	23/05/2017	23/05/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	0	FALSE	30	FALSE	FALSE	FALSE	FALSE
137	136	557322g	NoneChak	51	1	17/04/2017	14/05/2017	1	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	1	2	TRUE	27	FALSE	0	FALSE	FALSE	FALSE	FALSE
138	137	740225f	Saravanar	33	1	18/05/2017	18/05/2017	2	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	1	2	TRUE	0	FALSE	2	TRUE	FALSE	FALSE	FALSE

111	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	110	90	60	40	69	110	96	64	26	90	FALSE	FALSE	TRUE	TRUE	1	TRUE	8	30/03/2017	3	
112	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	80	130	70	40	65	100	120	80	24	94	FALSE	FALSE	TRUE	FALSE	2	FALSE	8	25/03/2017	2	
113	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	128	90	60	30	74	110	100	80	24	98	FALSE	FALSE	TRUE	TRUE	1	TRUE	18	04/05/2017	3	
114	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	144	110	70	34	94	100	108	74	26	96	FALSE	FALSE	FALSE	FALSE	2	FALSE	5	28/04/2017	2	
115	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	110	110	70	24	94	110	120	84	24	96	FALSE	FALSE	TRUE	FALSE	1	TRUE	7	18/04/2017	3	
116	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	80	100	60	16	98	94	130	80	18	94	FALSE	FALSE	FALSE	FALSE	1	FALSE	10	30/04/2017	2	
117	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	104	110	80	40	95	108	136	90	32	96	FALSE	FALSE	FALSE	FALSE	2	FALSE	2.4	10/05/2017	3	
118	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	78	100	70	20	94	90	110	80	24	96	FALSE	FALSE	FALSE	TRUE	1	TRUE	11	07/05/2017	3	
119	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	130	80	60	16	96	120	100	70	24	92	FALSE	TRUE	FALSE	TRUE	1	FALSE	4.5	10/05/2017	1	1
120	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	96	100	60	16	24	98	110	80	20	96	FALSE	FALSE	TRUE	TRUE	1	TRUE	14	24/04/2017	3	
121	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	120	110	80	30	69	126	108	60	32	88	FALSE	FALSE	TRUE	TRUE	2	TRUE	23	12/04/2017	2	
122	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	100	80	60	28	96	114	96	84	28	98	FALSE	FALSE	TRUE	FALSE	1	FALSE	9	24/05/2017	1	1
123	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	88	100	70	26	88	94	120	80	30	86	FALSE	FALSE	TRUE	FALSE	1	FALSE	7	25/03/2017	1	2
124	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	130	90	60	24	96	110	100	72	24	98	FALSE	FALSE	TRUE	FALSE	2	FALSE	9.3	27/03/2017	1	1
125	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	112	120	80	20	94	118	124	80	24	96	FALSE	FALSE	FALSE	TRUE	1	TRUE	22	10/04/2017	2	
126	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	130	80	60	24	96	120	100	80	26	98	FALSE	FALSE	FALSE	FALSE	1	FALSE	4.3	10/05/2017	1	1
127	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	124	100	60	24	100	110	80	60	24	96	FALSE	FALSE	FALSE	TRUE	1	FALSE	6	06/05/2017	1	1
128	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	120	84	60	28	98	122	100	82	26	96	FALSE	FALSE	FALSE	TRUE	1	FALSE	5	05/03/2017	1	1
129	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	102	120	70	20	98	110	126	84	24	96	FALSE	FALSE	TRUE	TRUE	1	TRUE	10	26/04/2017	2	
130	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	120	110	70	17	98	126	118	84	18	96	FALSE	FALSE	FALSE	FALSE	3	TRUE	19	18/04/2017	2	
131	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	96	100	60	20	94	120	106	70	24	96	FALSE	FALSE	TRUE	TRUE	1	TRUE	22.5	02/05/2017	3	
132	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	102	190	120	32	96	100	140	90	26	98	FALSE	FALSE	TRUE	FALSE	1	FALSE	12	27/03/2017	3	
133	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	116	110	70	28	96	110	118	80	26	94	FALSE	FALSE	FALSE	FALSE	1	FALSE	20	19/04/2017	2	
134	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	102	70	40	36	91	110	100	70	26	95	FALSE	FALSE	FALSE	TRUE	1	FALSE	17	18/08/2017	1	1
135	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	84	120	70	32	96	104	60	30	40	88	FALSE	FALSE	FALSE	TRUE	2	FALSE	15.3	15/08/2017	1	1
136	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	140	180	100	44	96	120	140	110	40	88	FALSE	FALSE	FALSE	FALSE	2	FALSE	7	23/07/2017	1	1
137	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	99	130	80	24	96	100	110	80	28	96	FALSE	FALSE	TRUE	TRUE	2	FALSE	10	14/05/2017	2	
138	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	140	110	80	40	80	110	110	78	24	98	FALSE	FALSE	TRUE	TRUE	2	FALSE	2	18/05/2017	2	

111		2	FALSE	FALSE	FALSE	2	2	TRUE	1	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	06/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
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113		2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	06/05/2017	3	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
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120		2	TRUE	FALSE	FALSE	3	3	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	17/05/2017	23	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
121		2	FALSE	FALSE	FALSE	2	2	FALSE	2	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	23/04/2017	11	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
122	2	2	TRUE	FALSE	FALSE	3	3	FALSE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	01/06/2017	8	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
123	2	2	FALSE	FALSE	FALSE	2	2	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	02/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
124	2	2	FALSE	FALSE	FALSE	1	1	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	1	03/04/2017	8	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
125		2	FALSE	FALSE	FALSE	2	2	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	18/04/2017	9	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
126	1	2	FALSE	FALSE	FALSE	2	2	FALSE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	13/07/2017	4	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
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128	2	2	TRUE	FALSE	FALSE	2	2	TRUE	1	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	08/05/2017	5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
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130		2	FALSE	FALSE	FALSE	1	1	TRUE	1	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	2	3	24/04/2017	7	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
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